SONY

3-786-747-11 (1)

VHS Video Cassette Recorder

SLV-401/401UB/402

Operating Instructions

Before operating the uint, please read this manual thoroughly, and retain it for future reference.

The photo shows the SLV-401.

VHS PAL

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WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open cabinet. Refer servicing to qualified personnel only.

NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

On colour broadcasting systems: SLV-401UB

This unit is designed to record and play back using the PAL colour standard. Recording and playback of video sources based on other colour systems cannot be guaranteed.

On colour broadcasting systems: SLV-401/402

This unit is designed to record and play back using the PAL and DDR SECAM colour systems. Recording and playback of video sources based on other colour systems cannot be guaranteed.

This manual covers the following three models:
1) SLV-401 (for European countries)
2) SLV-401UB (for UK)
3) SLV-402 (for European countries)
The principal differences among the three types are as follows:

	SLV-401UB	SLV-401	SLV-402
	UK model	European model	European model
Operating power voltage	240V AC	220V AC	220V AC
Frequency	50Hz	50Hz	50Hz
Colour system	PAL	PAL/DDR SECAM	PAL/DDR SECAM
Channel coverage	UHF B21-B69	VHF E2-S20 UHF E21-E69 HYPER S21-S41	VHF E2-S20 UHF E21-E69 HYPER S21-S41
VPS switch	Not provided	Not provided	Provided

The photo and illustrations used in this manual are those of the SLV-401. Any differences in appearance or operation of the SLV-401UB/402 are clearly noted as required.

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Precautions

On safety

- Operate the unit only on 240V AC, 50Hz for SLV-401UB, and 220V AC, 50Hz for SLV-401/402.
- Should any thing into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it will not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, as for example a microwave oven or a large loudspeaker.
- Do not place any heavy object on the unit.

On operation

- When the unit is not in use, turn the power off to conserve energy and to extend its useful life.
- Remove and store video cassettes after recording or playback.
- Store the cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth slightly moistened with a mild detergent solution.
Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your Sony service facility.

Features

Distinguished Editing Functions

Edit monitor functions
You can know the editing process at a glance as both the picture being back and the one being recorded are simultaneously displayed on the connected TV or monitor.

Input connectors located on the front
This allows you to use a video camera recorder easily.

Flying erase head
Colour streaks and blurs which were conventionally caused by continuous recording or insert editing are eliminated with this head.

Synchronized editing with a Sony VTR equipped a control terminal
You can control this unit and the connected VTR simultaneously during editing.

Control S input/output jacks and control L jack
You can remotely control the tape transport of another Sony video unit by using this unit.

Display Functions

Auto menu
You can select the various tape running modes with the auto menu.

Programme list
You can see the TV programmes set for timer-activated recording at a glance.

P in P (picture in picture)
You can watch a small TV picture inset in a VTR playback picture and vice versa.

Tape transport information displayed
You can see the information of the tape counter, tape speed and remained tape length on the TV monitor as the data screen.

Blue background function*
The VTR automatically paints the background in blue when the following items are displayed on the data screen so that you can read the data easily.
- EDIT MONITOR screen
- Programme list
- Auto menu
- Timer title

Convenient Functions

Multi-function wireless commander with the liquid-crystal display
You can control timer recordings easily with this commander.

Timer recordings of eight TV programmes over a month
You can preset eight recordings of TV programmes as much as one month in advance.

Index search and index scan
You can locate a desired programme easily by marking the beginning of the programme with an INDEX signal.

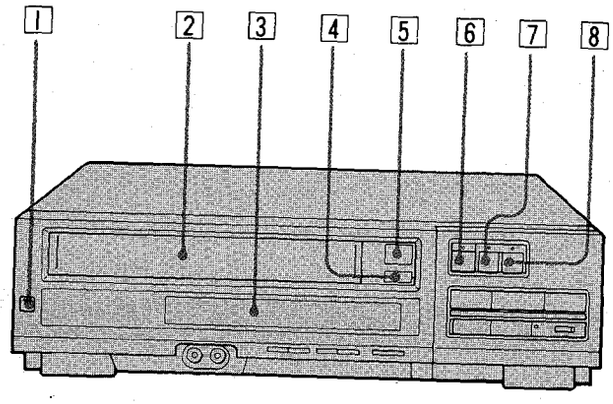
High-quality Picture

This VTR provides sharp, finely detailed pictures through High Quality (HQ) picture technology.
HQ The Video Cassette Recorder (VTR) with this marking incorporates VHS high-quality picture technology and is compatible with any Video Cassette Recorders bearing the VHS mark.

* The background becomes blue in the following situations:
- When you select a programme not pre-set
- When a unrecorded tape or a tape portion without a CTL signal is played back
- When an aerial is not connected
- When the TV signal is weak
- When no TV programmes are being broadcast
- When you select the input signal from the LINE IN 1 or 2 jack when no any equipment is connected there.
- When snow and noise appear on the picture

Location and Function of Parts and Controls

A1



For details on the use of each control, refer to the pages indicated in the black circles (●).

A1 Front

1 ON/STANDBY switch and indicator

2 Cassette compartment

3 Display window

4 EJECT button
Press to eject the cassette.
This button does not function during recording.

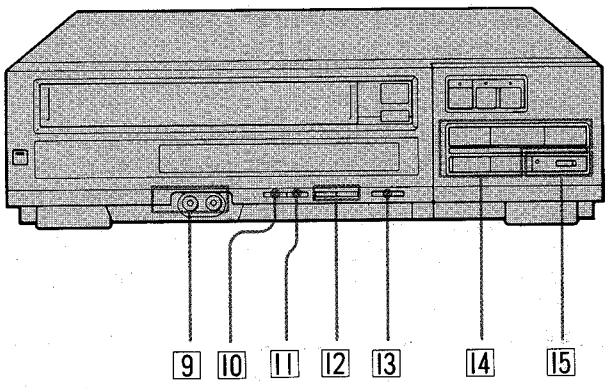
5 Remote sensor

6 EDIT MONITOR button and indicator
Press to display both the picture selected with INPUT SELECT and that recorded or performed insert editing on the tape simultaneously.

7 SYNC EDIT (synchronized editing) button and indicator ●62
Press to perform synchronized editing.

8 INSERT button and indicator ●67
Press to perform insert editing.

A2



A2 **Front**

9 **VIDEO/AUDIO (line in 2 audio and video) jacks** (phono type)

10 **TV/VTR button**
This button is operable only when a TV is connected to EUROCONNECTOR.
Press so that the VTR indicator lights up (VTR mode) to watch the programme selected on the VTR. To watch a different programme selected on the TV, press this button again so that the indicator goes off.

11 **COUNTER RESET button**
Press to reset the tape counter to "0H00M00S" and "0:00:00" on the data screen.

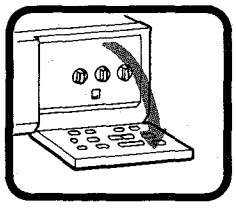
12 **PROGRAM + / – buttons**
Press to select the channels. And press + to advance and – to go back.

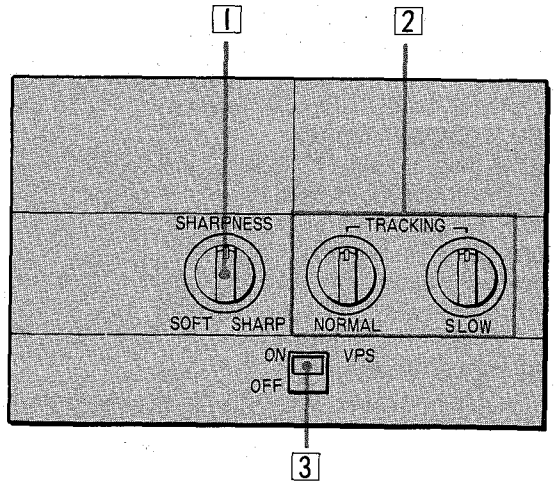
13 **INPUT SELECT button**
To select the programme to be recorded, press so that the desired input mode indicator appears in the display window.
TUNER: For recording TV programmes
LINE: For recording the signals from the LINE IN 1, 2 jacks or EUROCONNECTOR. L1 or L2 is displayed in the channel number indicator position of the display window depending on the jack used.
If the video equipment is connected only through the EUROCONNECTOR, it is regarded as the input from LINE IN 1.

14 **Tape transport buttons and indicators**
◄◄ REW (rewind) button and indicator
► PLAY button and indicator
►► FF (fast-forward) button and indicator
■ STOP button
II /►II PAUSE/STILL button and indicator

15 **RECORD switch and indicator**
Slide to the right to start recording.

A3





A3 Inside the Front Panel

1 SHARPNESS control

Use to adjust the sharpness of the picture if necessary. Normally set the control at the center detent position.

2 TRACKING controls

Normally keep these controls at the center position. Turning either of these controls may help clear possible streaks on the screen, especially when playing back tapes recorded on another VTR.

NORMAL: For normal and double speed playback.

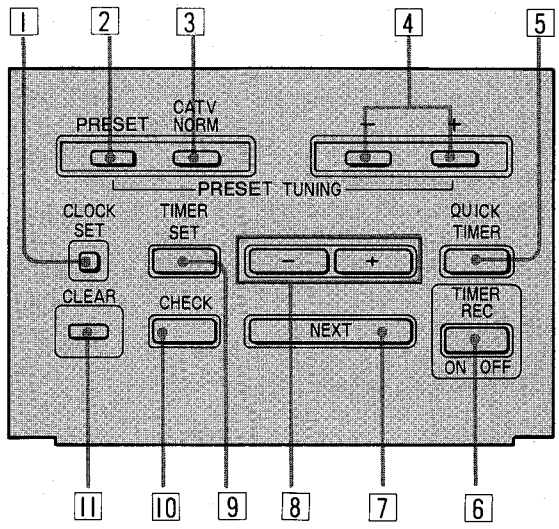
SLOW: For slow speed playback and freeze pictures.

3 VPS (Video Programme System) switch (SLV-402 only) ㊺

This switch is provided only for the SLV-402.

Set to ON to activate the VPS function.

A4



A4

1 **CLOCK SET button**
Press to start the setting of the date and clock.

2 **PRESET button** ㉓
Use to pre-tune the preferred channels.

3 **CATV/NORM (CATV/normal) button (SLV-401/402 only)**
Use to change the scannable area between the VHF and UHF channels and CATV channels. This button is not provided with the SLV-401UB.

4 **PRESET TUNING + / – buttons**
Use to tune channels.

5 **QUICK TIMER button** ㊾
Press to start a quick timer recording.

6 **TIMER REC ON/OFF button** ㊵
Press to activate the timer recording.

7 **NEXT button**
Press to advance to the next item to be set during date, clock or timer setting.

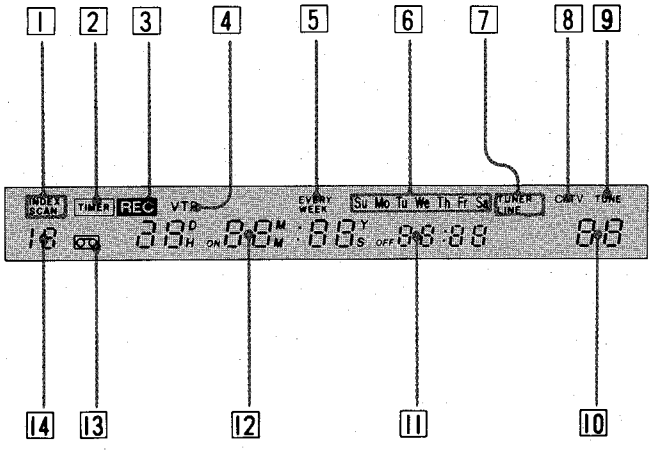
8 **Programme/Timer + / – buttons**
Press to set the timer and programme for timer-activated recording.

9 **TIMER SET button**
Press to start the setting or resetting of timer programmes.

10 **CHECK button**
Press to check the contents of the preset timer programmes.

11 **CLEAR button** ㉔
Press to eliminate an unwanted preset channel and to clear the timer setting.

A5



A5 Display Window

1 **INDEX SCAN indicator**

2 **TIMER indicator**
This indicator appears while you are setting or checking data for timer recording or while the VTR is performing timer recording, is waiting for the turn-on time of timer recording, or is performing quick timer recording.

3 **REC (record) indicator**
This indicator appears while the VTR is performing timer-recording, is waiting for the turn-on time of timer-recording, or is performing quick timer recording.

4 **VTR indicator**

5 **EVERY WEEK indicator**

6 **Day indicator**

7 **Input mode indicators**

8 **CATV indicator**

9 **TUNE (tuning) indicator**

10 **Programme number indicator**

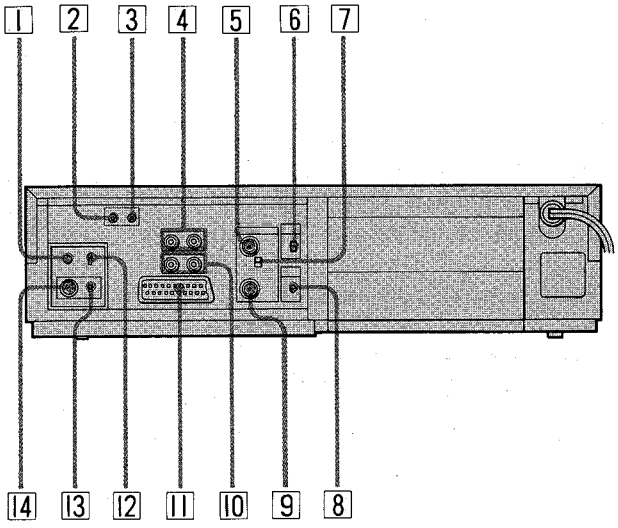
11 **Current time, timer recording end time, or clock setting indicator**

12 **Linear time counter, date, timer recording start time, or calendar setting indicator**

13 **Cassette indicator**

14 **Timer programme number for timer recording, index number for index searching or scanning**

A6



A6 Rear

1 **STILL ADJ (still picture adjustment) control**
Adjust the still picture with this control according to the connected TV or monitor. You do not need readjust this control once you adjust it as long as you use the same TV or monitor.

2 **CONTROL S IN jack (mini type)**
Connect to the CONTROL S output jack of another Sony product for systematic operations such as a synchronized editing.

3 **CONTROL S OUT jack (mini type)**
Connect to the CONTROL S input jack of another Sony product for automatic editing and other systematic operations such as a synchronized editing.

4 **LINE IN 1 AUDIO and VIDEO jacks (phono type)**

5 **AERIAL IN socket**
Connect the aerial cable.

6 **TEST SIGNAL switch**
Set to ON to obtain a test pattern.

7 **DX/LOCAL switch**
Normally set to DX. If the TV signal is very strong, set the switch to LOCAL.

8 **RF CHANNEL screw**
If there is interference on the factory-preset channel for RF output and the output signal from this unit cannot be displayed clearly on the TV screen, adjust the screw with the supplied screwdriver.

9 **AERIAL OUT socket**
Connect the aerial input of the TV receiver.

10 **LINE OUT AUDIO and VIDEO jacks (phono type)**
This connector is not for displaying the data screen on the TV or monitor.

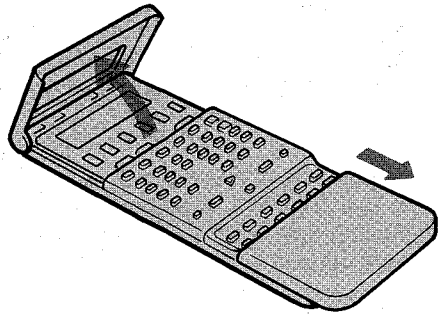
11 **EUROCONNECTOR (21-pin)**
Connect to the 21-pin connector of a VTR or a TV/monitor, or to the audio/video input of these units with an appropriate connecting cable.

12 **COMMAND MODE selector**
Set this selector to the same position as that of the COMMAND MODE button of the supplied wireless commander.

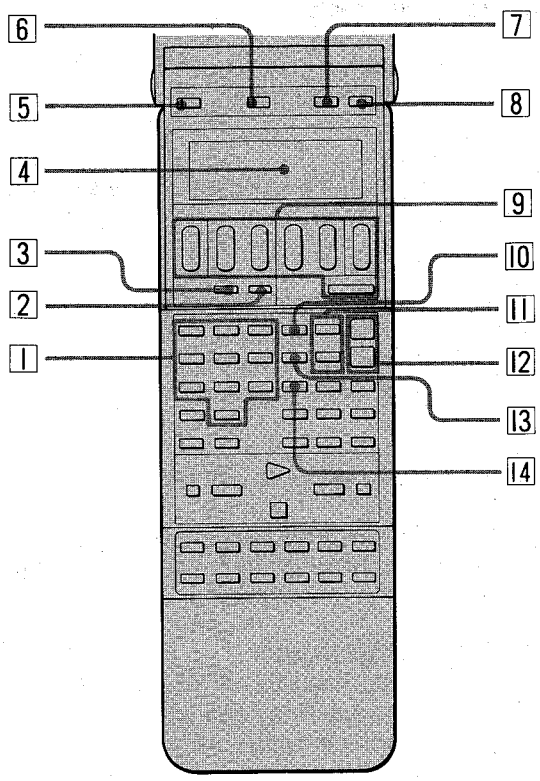
13 **CONTROL L MASTER/SLAVE selector**
Set to SLAVE only when you use another remote commander like RM-E100V to control this VTR.

14 **CONTROL L connector (5-pin DIN)**
Connect to the CONTROL L connector of an optional video editing controller RM-E100V or other Sony product such as an 8mm video camera recorder, for systematic operations.

A7



A8



A7 Wireless Commander RMT-257

Before using the commander
Set the COMMAND MODE selector located on the rear of the VTR to the same position as that of the COMMAND MODE selector of the commander.

A8

The buttons without explanation have the same function as the buttons on the VTR with the similar name or mark. Operate this commander without opening the upper cover except when setting data for timer recording.

1 **Programme number buttons**

2 **MEMORY button**
Press to store data for timer recording in the memory.

3 **CLOCK SET button**

4 **Liquid-crystal display**

5 **COMMAND MODE selector**

6 **TV/VTR selector**
Set to TV when you use this commander to operate a TV. Set to VTR to operate this VTR.

7 **TV/VTR button**

8 ⏻ **(On/Standby) button**

9 **Timer recording setting buttons**
Date/turning-on time/turning-off time/programme/transmit

10 **INPUT SELECT button**

11 **VOL (volume) + / – button**
Press to adjust the volume of the TV.
Press + to increase and – to decrease.

12 **PROG (Programme) + / – buttons**

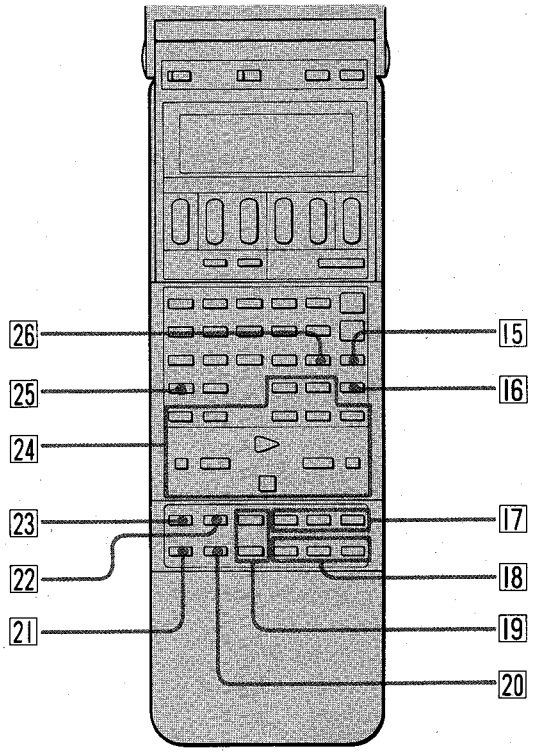
13 **EDIT MONITOR button** (35)

14 **TIMER DISPLAY button**
Display for checking timer-recording programmes is superimposed over the blue background on the TV or monitor.

When you operate a TV by using a commander
Use buttons which have orange dots on top of each.

INPUT SELECT button
When the upper cover is opened, you can set the data for timer-activated recording. When the upper cover is closed, you can change the data of the current setting.

A9



A9

15 **INDEX button**

16 ⊕ **(Display) button**
When TV/VTR selector 6 is set to TV, pressing this button clears information from the TV, such as input modes ⊖1 ⊖2.
When TV/VTR selector 6 is set to VTR, pressing this button clears the data screen, including various information such as the remaining tape length.

17 **Auto menu buttons**
Use to select the automatic tape operation listed in the auto menu displayed when pressing AUTO MENU.
AUTO MENU
SELECT
EXECUTE

18 **TIMER CHECK/CLEAR/TIMER REC ON/OFF buttons** 46

19 **INDEX MARK and ERASE buttons**

20 **DIGITAL OFF button**

21 **TV SCAN button**

22 **SHIFT button**

23 **P in P (picture in picture) button**

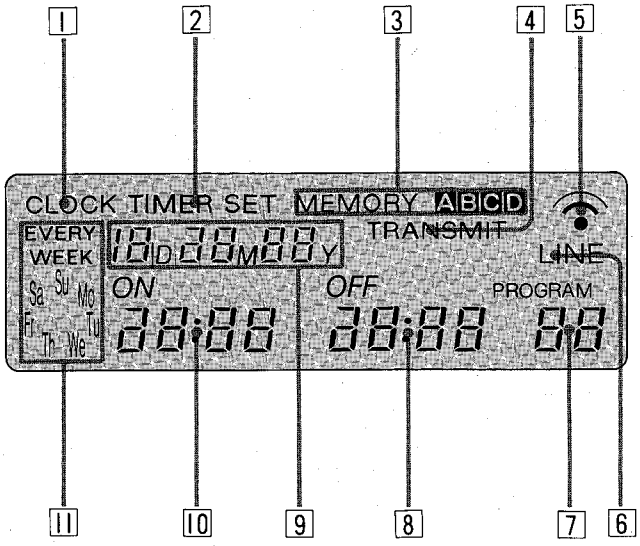
24 **Tape transport buttons**
- ⏸ PAUSE
- ● REC and the recording auxiliary button (right side)
- ⏸► (frame)
- ▮► SLOW +/− ×2
- ◄◄ ►► SEARCH (Reverse/forward)
- ► PLAY
- ◄◄ REW (rewind)
- ►► FF (fast-forward)
- ■ STOP

25 **−/— (10's digit) button**
To enter a programme number higher than 10, press this button before entering a programme number.

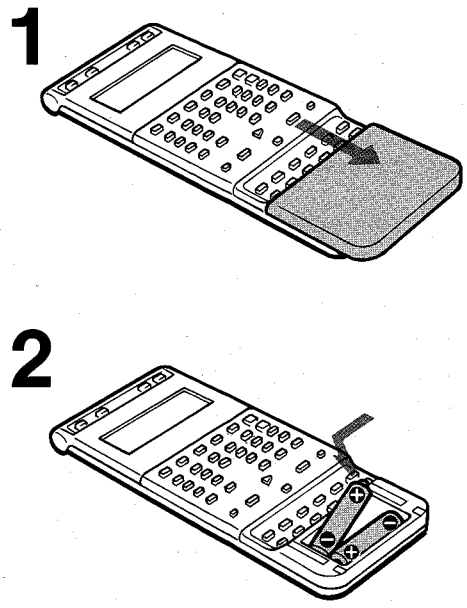
26 **COUNTER RESET button**

When the data screen or edit monitor is displayed
During slow playback, or while playing back a commercially available recorded tape, noise may appear over the picture in the data screen or edit monitor. In this case, refer to the information on the display window of the VTR instead.

A10



A11



A10 Liquid-crystal Display

1 **Current time setting indicator**

2 **Timer setting indicator**

3 **Memory indicator**

4 **Data transmit prompt indicator**
Indicates that the necessary data have been set and calls upon the person to press TRANSMIT.

5 **(data transmit) indicator**
Indicates that the set data are being transmitted.

6 **External input indicator**

7 **Programme number for timer recording or selected line input indicator**

8 **End time of a timer recording**

9 **Current data and data for timer recording**

10 **Current time and start time of a timer recording**

11 **Every week and day indicators**

A11 Battery Insertion

1 Open the lid.

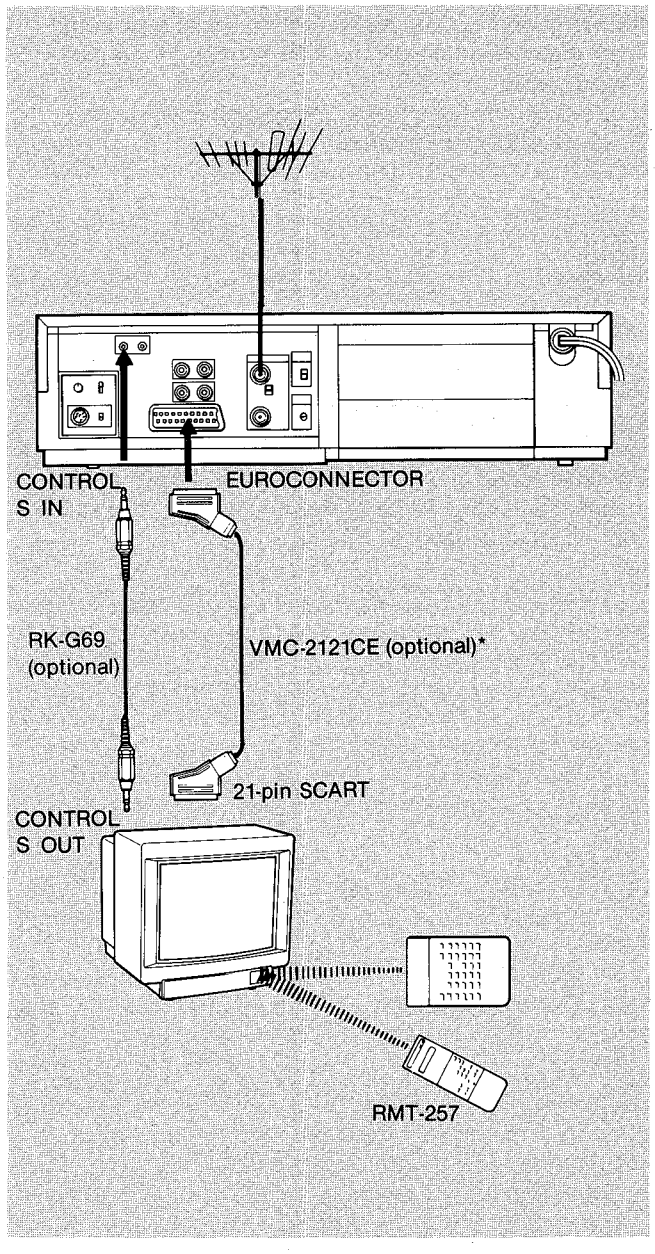
2 Insert two R6 (size AA) batteries with correct polarity.

3 Slide and close the lid.

Battery life
In normal operation, batteries will last for six months.

If the wireless commander will not be used for a long period of time
Remove the batteries to avoid possible damage from battery leakage.

A12



A12 **Remote Control Operation**

For owners of other Sony video equipment or TVs

You can operate the VTR by pointing this commander at your TV or TV tuner if it is equipped the CONTROL S output jack.
This is convenient when the VTR is located far away from the TV.

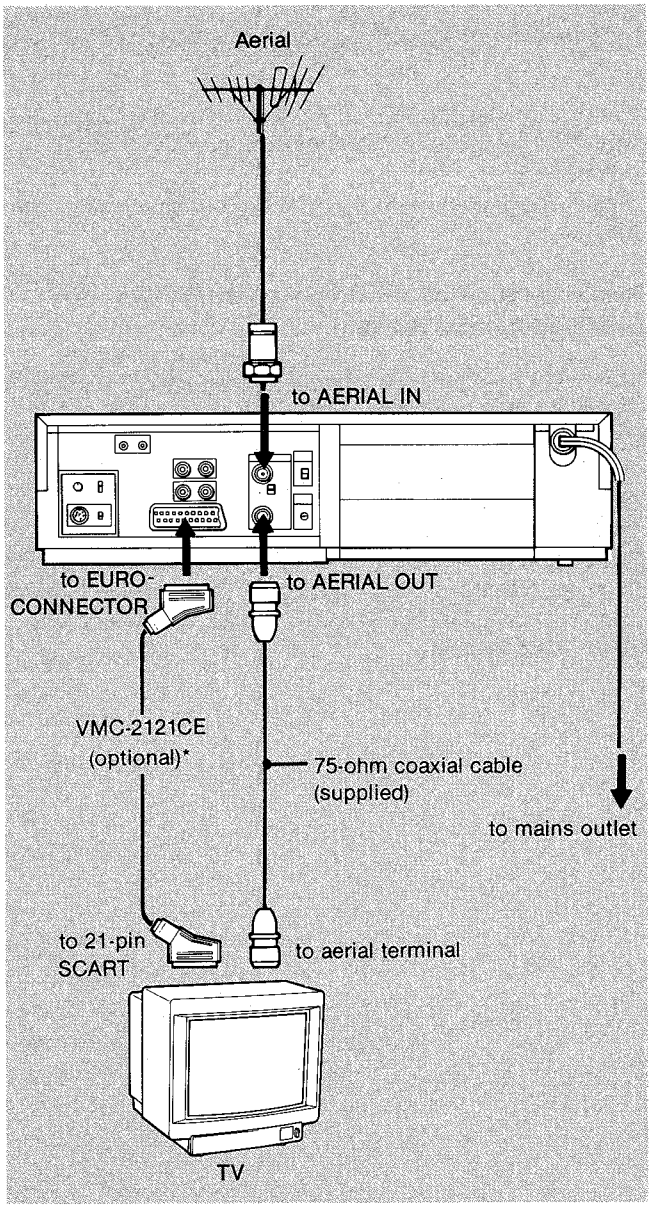
Remotely controlling the video equipment without the COMMAND MODE switch
Set COMMAND MODE on the commander as follows:
VTR1: for Sony Betamax infrared remote control VTRs
VTR2: for Sony 8mm format VTRs
VTR3: for this unit

Avoiding having this VTR and the other equipment functioning simultaneously
Set COMMAND MODE of this VTR to a different position from the command mode selector of the other equipment. Simply by switching COMMAND MODE, you can control two VTRs separately.

* When you connect a Sony TV, the LINE OUT connectors can be used to connect it. In this case, use VMC-600M/601M or VMC-602MS/603MS (optional).

Connections

B1



Before making connections

- Turn off all equipment.
- Do not connect the mains lead to a wall outlet until all the connections of the VTR and the TV have been completed.
- Make connections firmly. Loose connections may cause a distorted picture.

B1

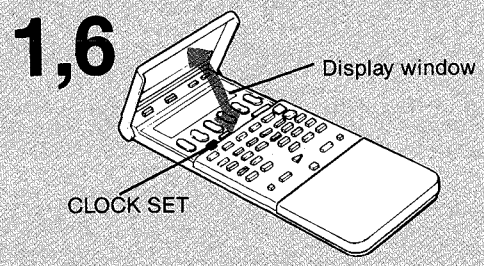
Note

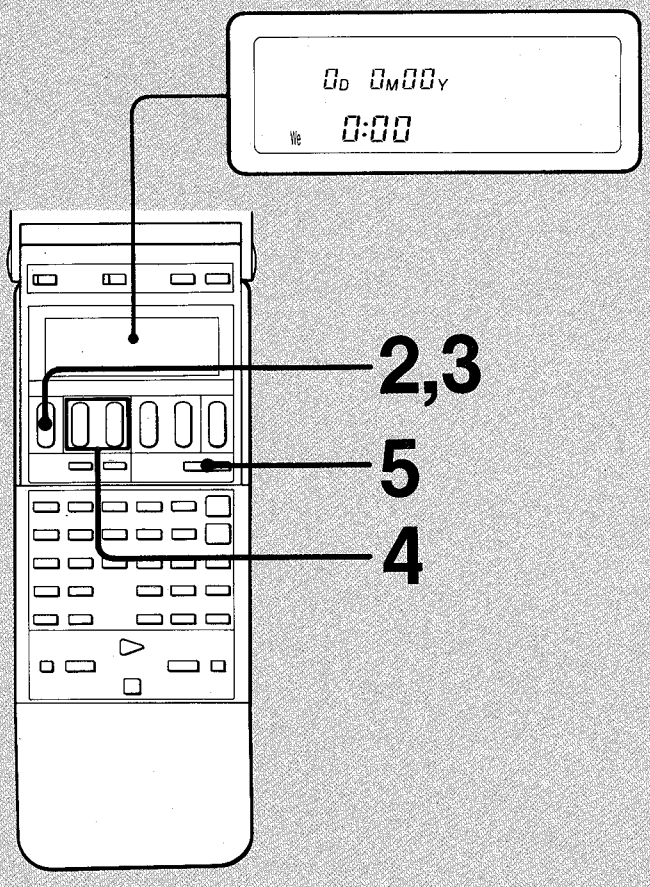
For a high-quality picture, connect a colour monitor or a TV equipped with video/audio input jacks. However, you cannot view a TV programme on a colour monitor while recording another programme. If you want to do so, use a TV tuner together with the monitor. For details on the connection of the TV tuner and the monitor, refer to the instruction manual of the TV tuner.

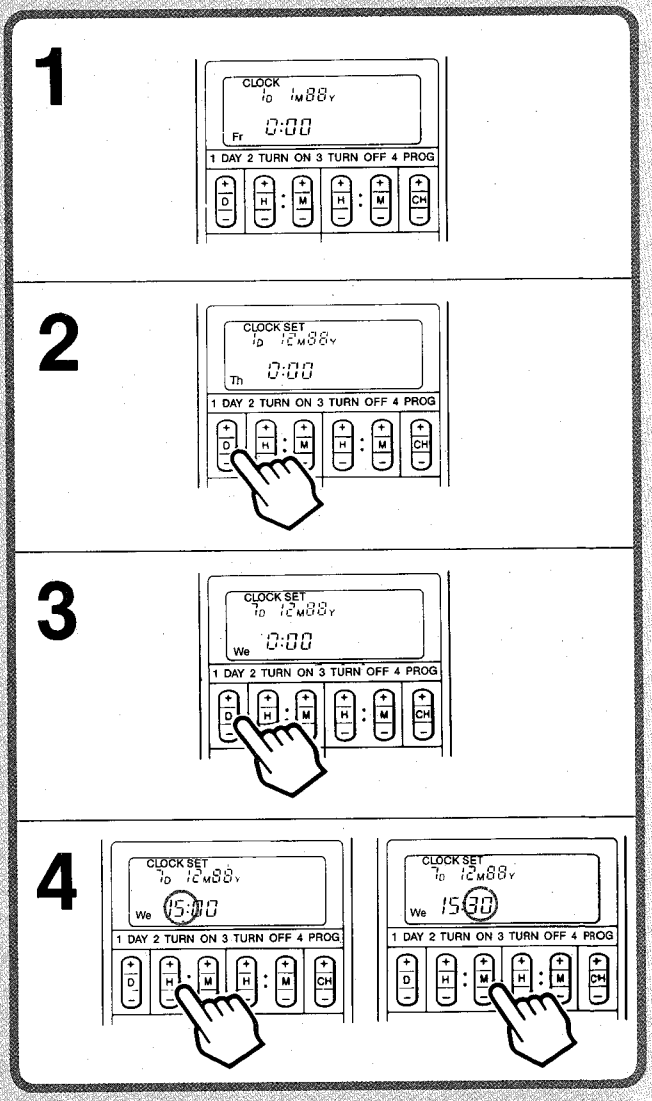
*You can connect the TV also by using the LINE OUT connectors instead of the EUROCONNECTOR. In this case, the TV cannot display the data screen supplied from the VTR.

Date and Clock Setting

C1







When you replaced exhausted batteries with new ones
Repeat this setting from step 1.

If short beep sounds repeatedly during transmission
The VTR is during:
- Timer-activated recording
- Quick timer recording
- Being set the clock with the buttons on the VTR
- Being set the data for timer-activated recording with the buttons on the VTR

When the power is turned off
The clock operates unless you disconnect the power cord.
The clock continues to work for 3 hours after the power cord is disconnected or a power interruption occurs.

When "0:00" blinks on the display window
There has been a power interruption for more than 3 hours or the power cord has been disconnected for more than 3 hours. In this case, readjust the clock.

You can set the calendar between the year 1988 and 2003.

You can set the date and clock by using the wireless commander or by using the buttons on the inside front panel of the VTR.

Setting with the Wireless Commander C1

Example: to set the date/clock to 3:30 p.m., December 7, 1988.

1 **Open the cover of the commander, and press CLOCK SET.**

2 **Set the year and month.**
Keep the D button pressed until the appropriate year and month is indicated, then release it.
The day numbers advance from 1 to 31 (depending on the month), and then the month indication changes to the next month.

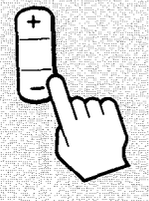
3 **Press the D button again and again until the appropriate day is indicated.**
The day of the week is automatically displayed when the year, month and day are registered.

4 **Press the H and M buttons in the TURN ON section to set the hour and minute.**

5 **Press TRANSMIT with pointing the commander at the VTR at the same time as an announced time signal.**
The clock now starts, and the clock on the display window of the VTR indicates the correct time.

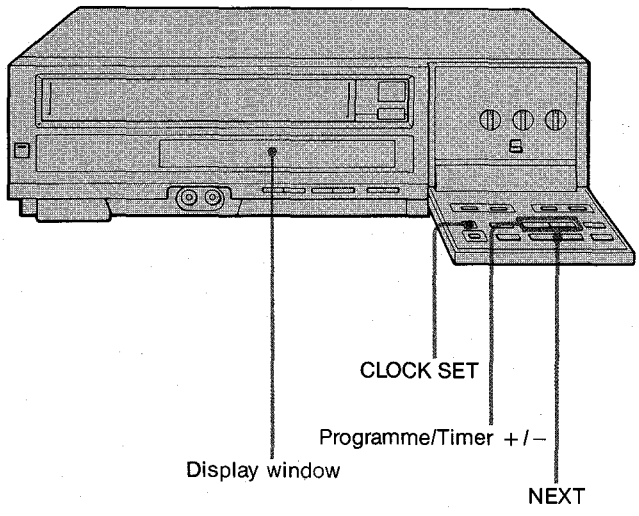
6 **Close the cover of the commander.**

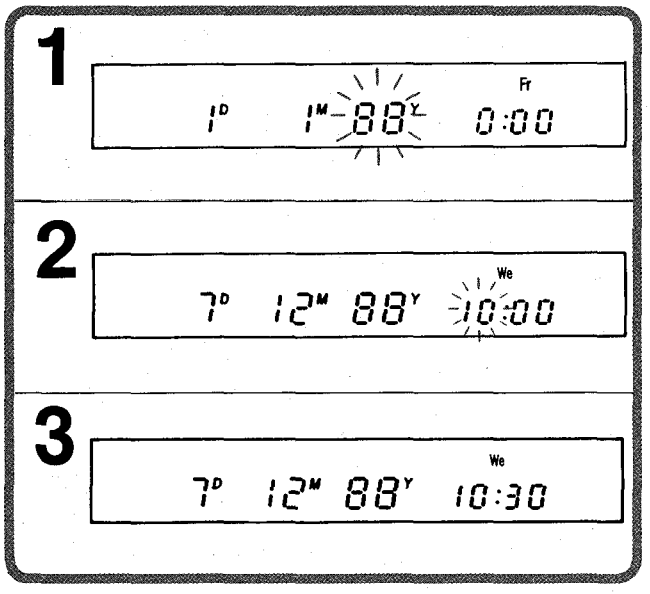
If you go past the correct number of the date or time
Press the lower half of the button (minus side) to go back.



Readjusting the clock on the VTR
Open the upper cover of the commander, press CLOCK SET, readjust the clock and press TRANSMIT.

C2





Setting with the Buttons of the VTR

You can set the date/clock even when the power is turned off.

Use Programme/Timer +/–. Every time you press this, the number or the day of the week changes by one. When you keep this button pressed, they change more so quickly.

C2

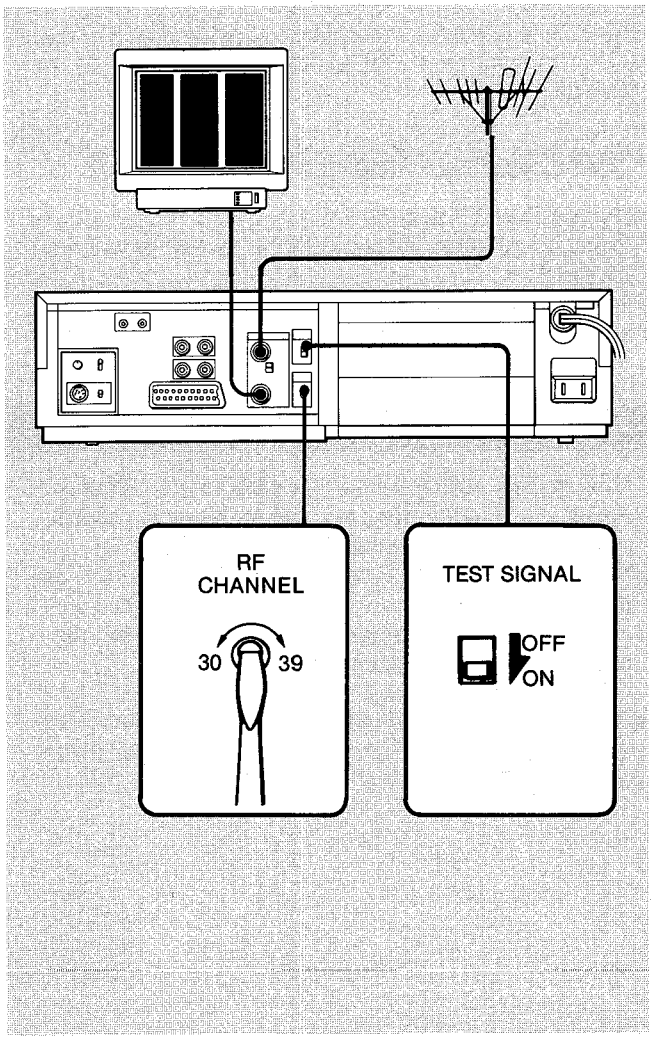
1 Press CLOCK SET.

2 Set the year, month, day and hour in sequence by pressing Programme/Timer +/– at the blinking item and pressing NEXT.
The day of the week is automatically displayed.

3 Set the minute with Programme/Timer +/–. Press NEXT at the same time as an announced time signal.
The clock now starts and the date indicator disappears.

Adjusting the TV

D1



D1

One of the television programme positions must be adjusted to receive the signal from the recorder.
If you connect a monitor or TV equipped with video/audio jacks, this adjustment is not necessary.

1 **After making connections, press ON/STANDBY.**
The lamp lights.

2 **Make sure that the VTR is in the stop mode and that the TV is set for the tuner as input.**

3 **Set TEST SIGNAL at the rear of the VTR to ON.**
The test signal is transmitted on a channel between UHF 30 and 39.

4 **Turn on the TV and select a programme position which is not being used to receive a TV station. Tune the channel until you see a clear black and white pattern on the TV screen.**
This is the recorder's test signal.

5 **Set TEST SIGNAL to OFF if the picture is free of disturbance.**

Your TV is now tuned to the VTR. Whenever you use the VTR, set the TV to the programme selected above.

If the test picture is not free of disturbance

1 **Set TEST SIGNAL to OFF.**

2 **Adjust the channel between UHF 30 and 39 with the tuning colour or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.**

3 **Set TEST SIGNAL to ON again.**

4 **Slowly turn the RF CHANNEL screw on the rear of the VTR with the supplied screwdriver, until you see an undistorted test pattern on the TV screen.**

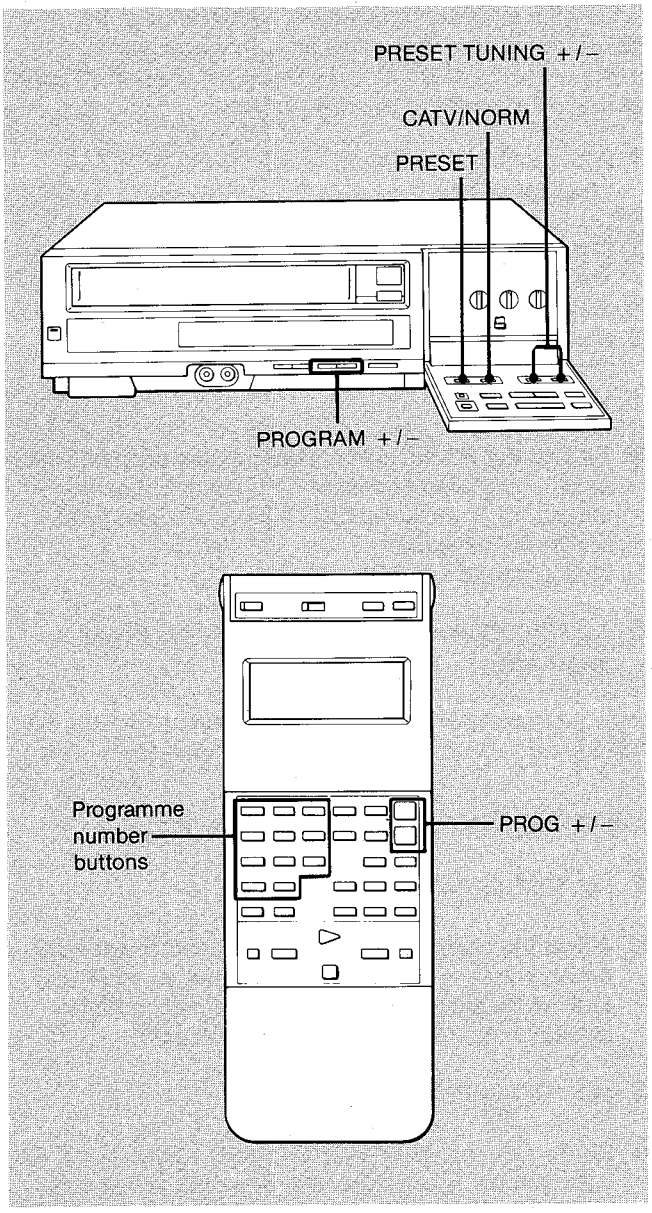
5 **Reset TEST SIGNAL to OFF.**

If you are not sure how to adjust your TV, refer to the TV's instruction manual or consult your dealer.

Check!
Check that the programme displayed on the screen changes when a different programme is selected on the VTR.
If the programme does not change, repeat the preceding steps.

Presetting the Active Channels in Your Area

E1



E1

Your VTR is capable of receiving VHF channels E2 – E12, UHF channels E21 – E69 and cable TV channels S1 – S41, S01 – S05.

Before selecting or presetting TV programmes

- Turn on the VTR and the TV.
  Make sure that the TV is set to the correct programme for the VTR.
- Press INPUT SELECT so that the TUNER indicator and programme number appear in the display window.

Selecting TV Programmes

There are two ways to select the programme numbers.

- Press –/-- (if necessary) and the programme number button(s) on the commander.
- Press PROGRAM +/– on the VTR or PROG +/– on the commander.
  For lower-numbered programmes, press "–", and for higher-numbered programmes, press "+".

If the picture of the desired programme does not appear in the above procedure, preset the programme as in "Pre-tuning of Built-in TV Tuner".

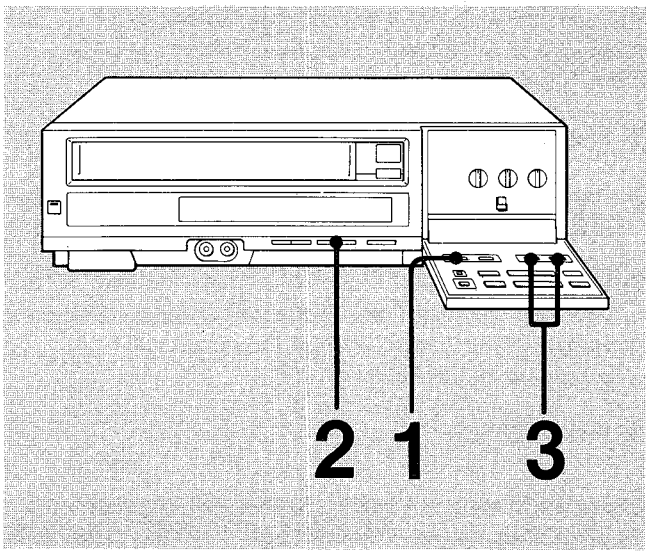
If you want to enter a programme number higher than 10 by using programme number buttons

Press –/--, and then the desired number.

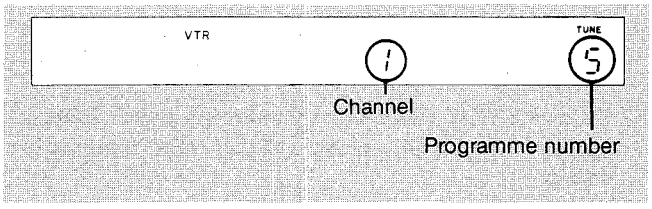
Example: 23

–/--	2	3

E2



E3



Pre-tuning of Built-in TV Tuner E2

Once you have pre-tuned the preferred stations, you can select any of them by merely pressing the PROGRAM +/– buttons on the VTR or commander.

1 Press PRESET.

2 Press PROGRAM +/– until the desired programme number appears on the display window. E3

3 Press PRESET TUNING +/–.
At a station that is broadcasting, a picture appears on the TV screen. If the station received is different from that to be preset, press PRESET TUNING +/– again. At the next station, the searching will stop and the new station can be preset. Repeat this until the desired station is reached.

Notes

- Press PRESET TUNING +, and channels are scanned in the order VHF (E2 – E12*) →UHF (E21 – E69)→ CATV (S1 – S41)→HYPER BAND (S21 – S41)→VHF (S01 – S05).
  The CATV indicator appears only while the VTR is scanning the CATV and HYPER channels.
- Press PRESET TUNING –, and channels are scanned in the reverse order.

4 Repeat steps 2 and 3 above for other programme numbers.
You can preset up to 60 programmes.

5 After having completed tuning all the programmes you want, press PRESET again.

You can directly preset programme numbers by using the commander.
After step 2, press the programme number button(s) on the commander instead of step 3 to preset desired channels.

*Channels 13 to 20 corresponds to channels A to H in Italy.
The SLV-401UB for UK scans only UHF channels B21 to B69.

You can scan CATV channels without waiting for completion of UHF scanning.
Press CATV/NORM after step 3. The VTR starts scanning CATV channels.

Fine-tuning a weak station

Normally, the automatic fine-tuning function works.
If the picture of a particular programme is not acceptable, perform the following operation:

1 **Select the programme already preset by pressing PROGRAM +/–.**

2 **Press PRESET TUNING +/– until the picture becomes clearer.**

CATV S13 – S20 (Italy A – H)
These channels are available in Italy.

Erasing Unwanted Preset Programmes

You can preset the VTR so that only the desired programmes will appear in sequence when you press PROGRAM +/–.

1 **Press PRESET.**

2 **Press PROGRAM +/– until the unwanted programme is found.**

3 **Press CLEAR.**

4 **Repeat steps 2 and 3 until all the unwanted programmes have been erased.**

5 **Press PRESET.**

Adding Programmes

You can put back programmes removed by CLEAR and add programmes for new broadcasting stations.

1 **Press PRESET.**

2 **Select the programme number to which no broadcast station is assigned by using PROGRAM +/–.**

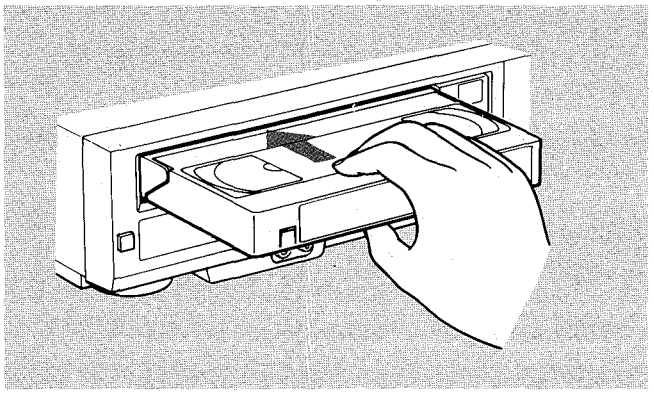
3 **Press PRESET TUNING +/– until the channel which has been previously erased and you want to preset is found.**

4 **Repeat steps 2 and 3 for other programmes if desired.**

5 **Press PRESET.**

Handling the Video Cassettes

F1



Inserting a Cassette F1

Insert a cassette.
The power will be turned on automatically.

Ejecting a Cassette

Press EJECT.
When the power is off and EJECT is pressed, the VTR turnes on automatically and the cassette is ejected. After which, the power is turned off automatically.

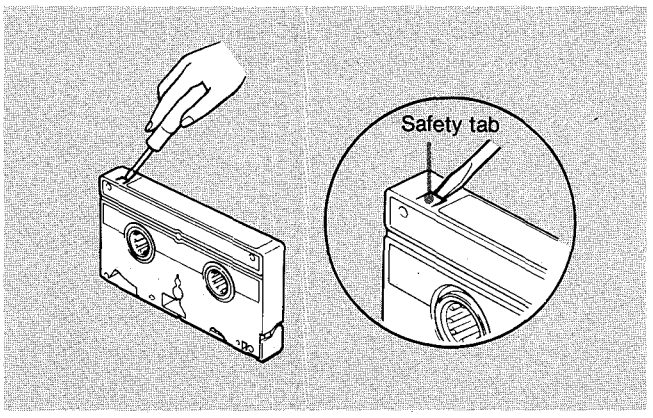
Note

While the VTR is in recording mode or performing an insert edit, press STOP to stop recording and then press EJECT.

Avoiding Erasing a Recorded Tape F2

When a new recording is made on a previously recorded cassette, the old recording will be erased automatically.

F2

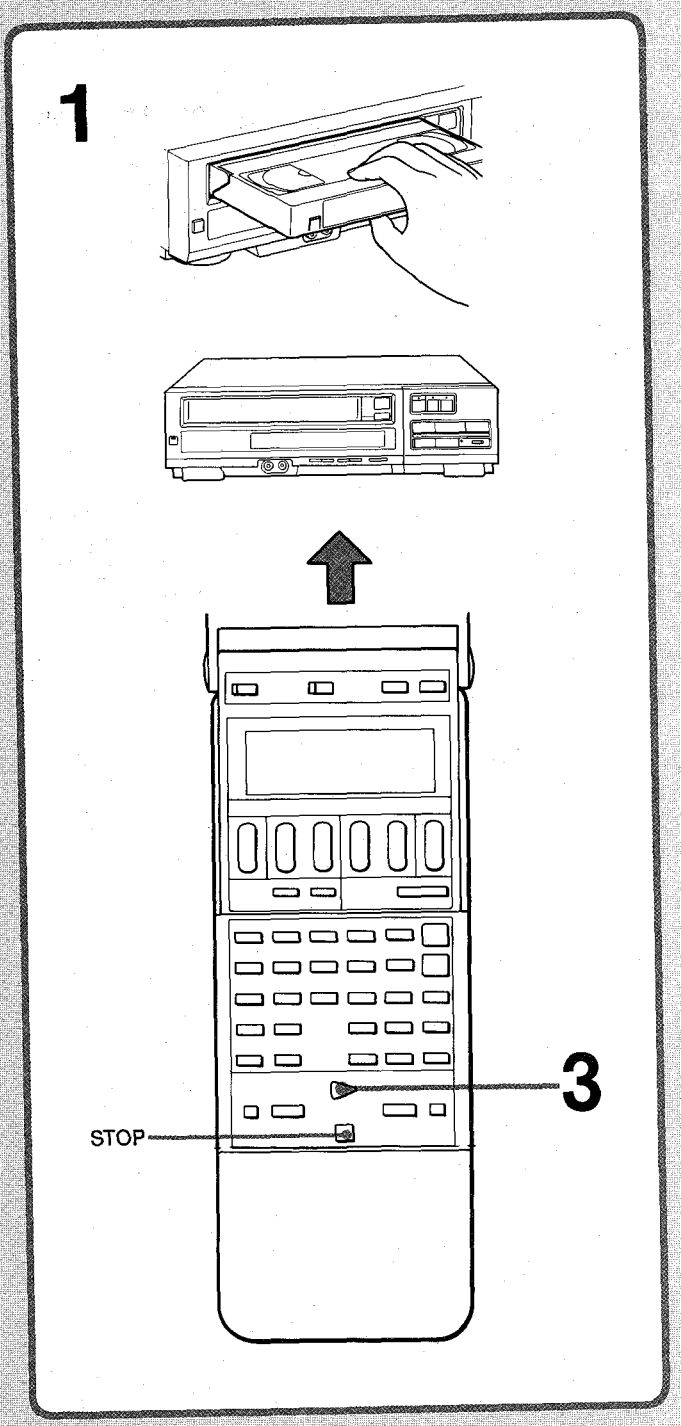


Avoiding accidental erasing
Break off the safety tab.

To re-record a cassette whose safety tab is broken off

Cover the slot where the safety tab used to be located with cellophane tape.

G1



Playing Back a Tape G1

1 Insert a cassette.
The power is turned on automatically (**Auto power on**).*

2 Turn on the TV and select the programme for the VTR or select the input for the VTR.

3 Press PLAY.
Playback begins.

Stopping playback

Press STOP.

If the data screen does not appear

The data screen disappears during slow motion playback or playback pause.
The data screen does not appear when you press [+].
The remaining tape length indicator disappears during fast-forwarding or rewinding.

Note

The digital pictures obtained from the playback of an external video equipment may be distorted.

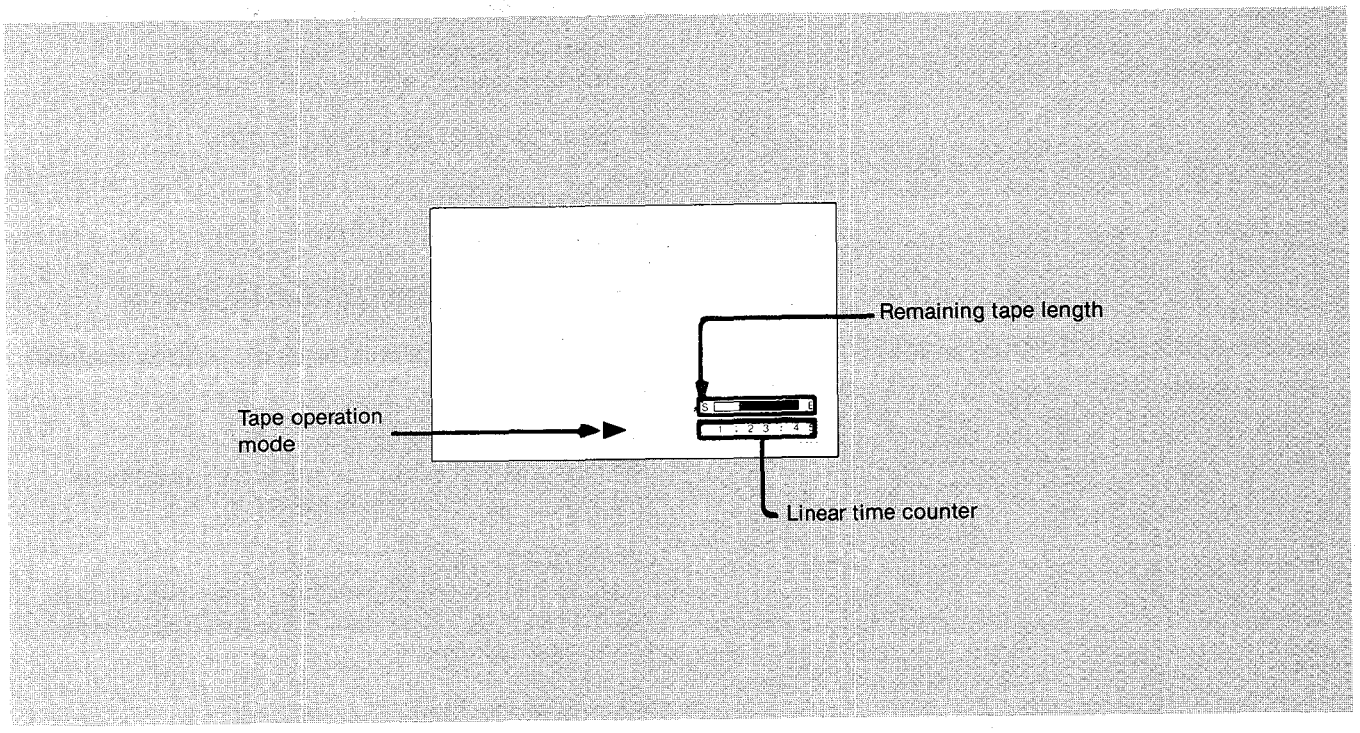
* If you insert a cassette whose safety tab is broken off during the power standby mode, the VTR will start playing back automatically.

When the tape is played back to the end
The tape is automatically rewound to the beginning (Auto rewind). The power remains on.

Running the tape at a fast speed
Press ►► FF.

Rewinding the tape
Press ◄◄ REW.

What does the data screen indicate?



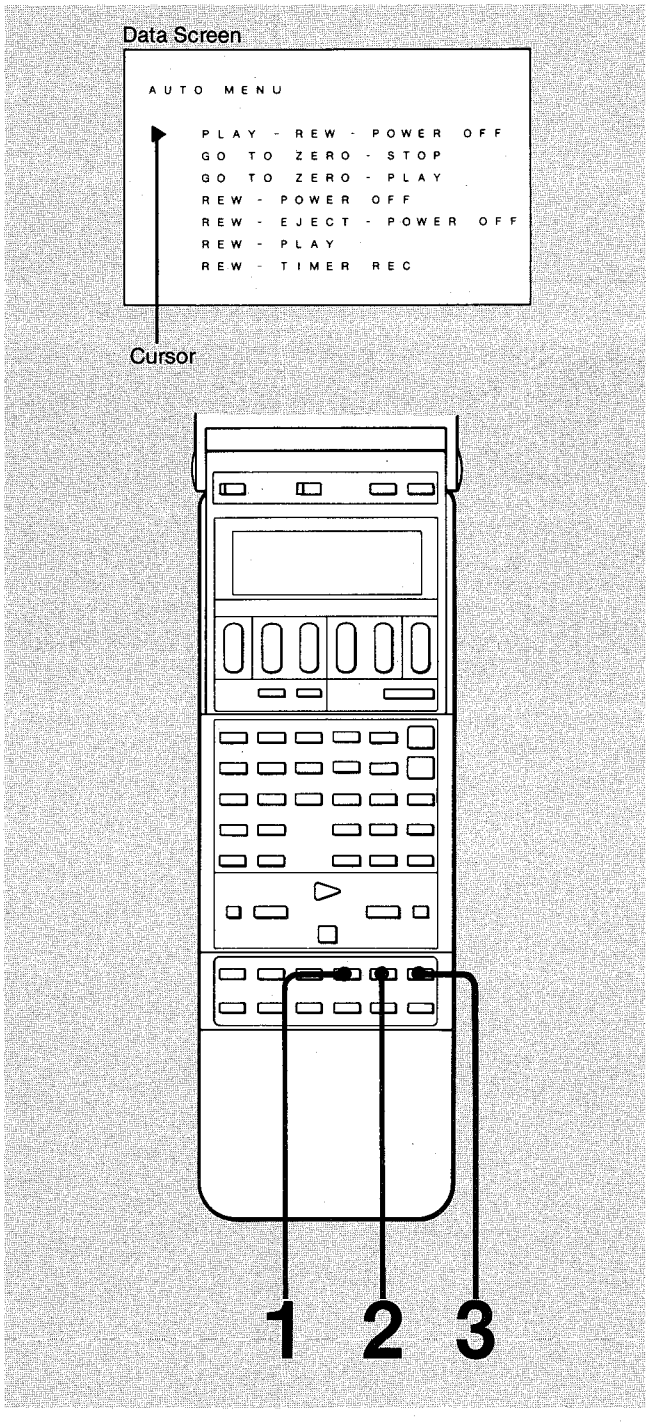
Remaining tape length indicator
The displayed remaining tape length is not precise.
Therefore, use it as an approximate reference.
When you insert a short tape such as E-30, or a nonstandarized commercially available tape, this indicator may malfunction.

Getting a sharper picture
Turn the SHARPNESS control toward SHARP.

Getting a softer picture
Turn the SHARPNESS control toward SOFT.

Erasing the data screen from the display
Press [+].

G2



Auto Play — Pre-setting the VTR's Operation G2

1 Press AUTO MENU when the tape stops.
The auto menu is displayed on the data screen.

2 Move the cursor by pressing SELECT.

3 Press EXECUTE.
The selected operation begins.

What does each operation indicator mean?

You can select the following kinds of operation displayed in the auto menu.

PLAY — REW — POWER OFF
The tape is played back to its end and rewound to its beginning. Then the power is turned off.

GO TO ZERO — STOP
The tape is fast-forwarded/rewound to the zero counter position, and stops. See "Tape Return/Tape Return Play" for detailed operation.

GO TO ZERO — PLAY
The tape is fast-forwarded/rewound to the zero counter position, and is played back. See "Tape Return/Tape Return Play" for detailed operation.

REW — POWER OFF
The tape is rewound to its beginning and the power is turned off.

REW — EJECT — POWER OFF
The tape is rewound to its beginning and the cassette is ejected. Then the power is turned off.

REW — PLAY
The tape is rewound to its beginning and is played back.

REW — TIMER REC
The tape is rewound to its beginning and the VTR enters to the standby mode for timer-activated recording.

Notes on the auto play operation
- You can pre-set the auto play operation only when the tape is stopped.
- The cassette with a broken off safety tab is ejected when you select REW — TIMER REC.

Recalling the previous screen without selecting the auto menu
Press AUTO MENU.

When the power is turned off
The VTR retains the selected cursor position.

Various Playback Modes

Use the buttons on the VTR or the commander.

Still picture (playback pause)

Press ⏸/▶◀ PAUSE/STILL on the VTR or ⏸ PAUSE on the commander during normal playback or various playback modes.

Frame-by-frame Picture

Press ⏸▶ (frame) on the commander in still picture mode.

Various speed playback

Press the desired speed button during playback or in the various playback mode.

Press SLOW +/– on the commander for slow motion pictures (1/5 to 1/30). +/– determines how slow the tape runs.

Press x2 on the commander for double speed pictures.

To change the playback speed, simply press the desired speed button.

Locked picture search

— Viewing the picture while fast-forwarding or rewinding.

Press ◀◀ SEARCH or ▶▶ on the commander during normal playback or various playback modes.

Resuming the normal playback

Press PLAY on the commander or the VTR.

Picture search

Press ◀◀ (REW) or ▶▶ (FF) on the VTR or commander during normal playback or various playback.

You can see the fast-forwarded or rewound picture while you are pressing the button.

When you release the button, the VTR resumes normal playback or various playback.

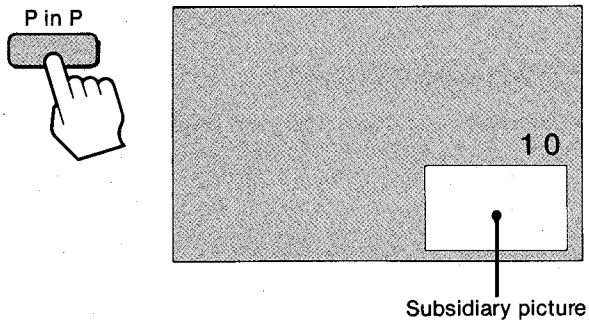
If streaks or noise bands appear in a slow motion picture

Adjust the TRACKING SLOW control on the inside front panel of the VTR.

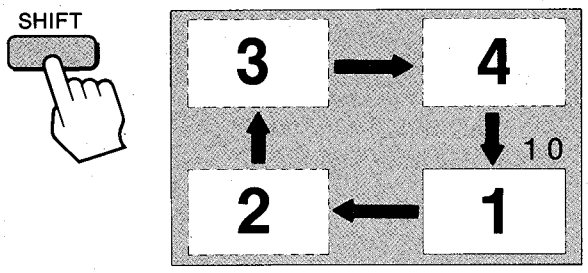
If the picture appears to shake in the slow motion, still, or double speed (x2) mode

After pressing ⏸ PAUSE, turn STILL ADJ on the rear of the VTR until the picture stabilizes.

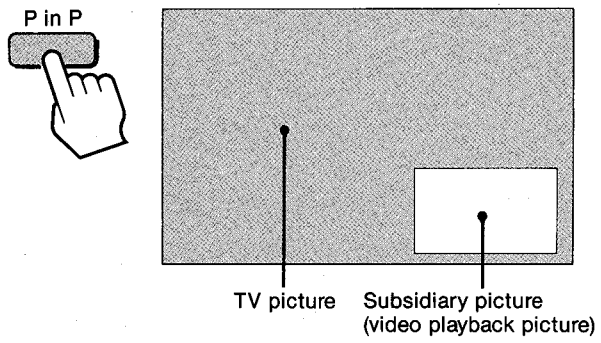
G3



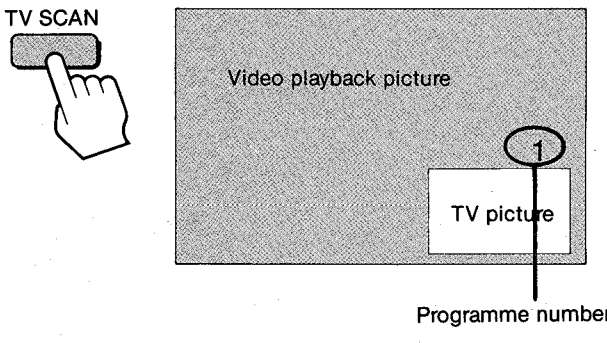
G4



G5



G6



Inserting a Small TV Picture in the VTR Playback Picture — P in P G3

1 Press INPUT SELECT to display the TUNER indicator.

2 Press P in P during playback.
A moving TV picture (subsidiary picture) appears in the lower right of the screen.*

Changing the position of the subsidiary picture
Press SHIFT on the commander. G4

The position of the subsidiary picture changes cyclically 1 to 4 in order.

Inverting the position of the subsidiary picture
Press P in P again. G5

The TV sound is heard.

Resuming the playback picture
Press DIGITAL OFF.

Watching a TV programme channel by channel in succession — TV scan G6

You can watch a few seconds of TV programmes in the pre-set order.

Press TV SCAN on the commander.
When all the programmes broadcasted on the pre-set channels have been displayed, the programme displayed first appears again.

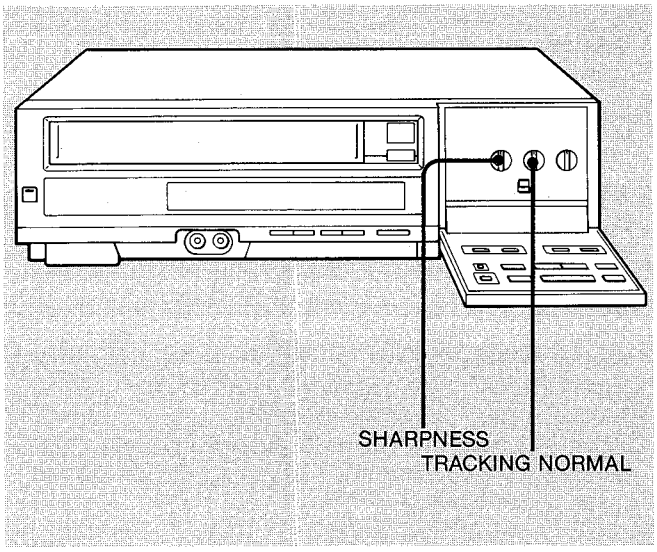
*The VTR retains the selected subsidiary position after turn-off.

When INPUT SELECT is set to L1 or L2
You can watch the picture from the LINE IN 1, LINE IN 2 jack or EUROCONNECTOR instead of the TV picture.
If the video equipment is connected only through the EUROCONNECTOR, it is regarded as the input from LINE IN 1.

If both the LINE IN 1 jack and EUROCONNECTOR are used, the L1 indicator indicates that the picture from the LINE IN 1 jack is displayed.

Monitor sound during P in P operation
You can monitor the sound from the main picture.
The main sound and picture are output from the LINE OUT jack on the rear of the VTR.

G7



Playing Back a Tape Recorded on Another VTR G7

You may have to make some adjustments when playing back a tape recorded on another VTR.

Getting a sharper picture
Turn the SHARPNESS control toward SHARP.

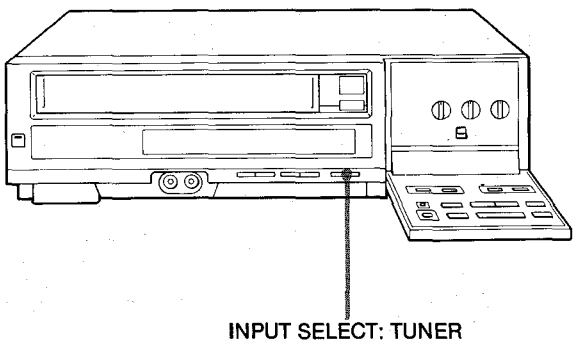
Getting a softer picture
Turn the SHARPNESS control toward SOFT.

When streaks or snow appears

Adjust the TRACKING NORMAL control for the best possible picture.
Return the control to the center position after viewing that tape.

Recording TV Programmes

H1



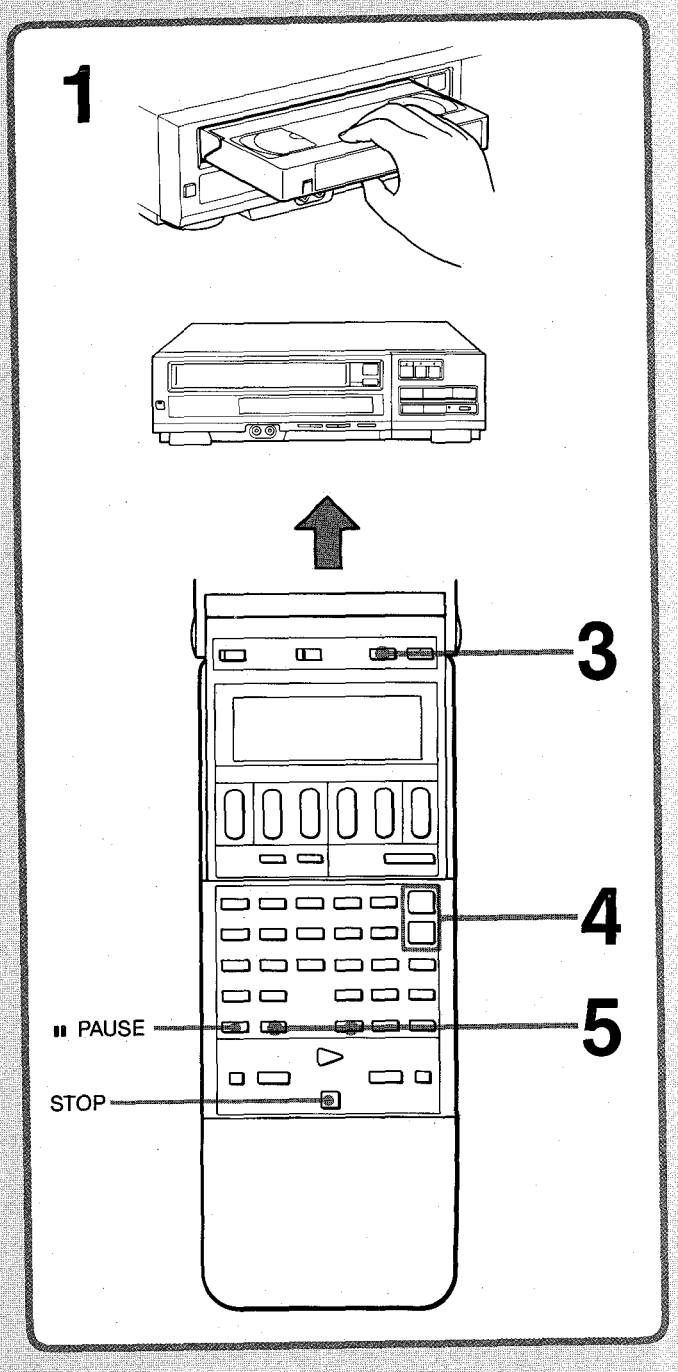
INPUT SELECT: TUNER

Before Recording H1

Caution
Television programmes, films, video tapes and other materials may be copyrighted.
Unauthorized recording of such material may be contrary to the provisions of the copyright laws.
Also, use of this recorder with cable television transmission may require authorization from the cable television transmitter and/or programme owner.

- Make sure that you have finished all the connections and adjustments on page 16, page 21 through 23.
- Check the positions of the selectors.
- Digital pictures cannot be recorded with this unit. They can be recorded with another recorder, but may not be played back correctly.

H2



Recording H2

1 Insert a cassette.
The unit is automatically turned on **(Auto power-on).**

2 Turn on the TV and select the programme for the VTR.
If your TV has audio/video inputs, select the VTR input on the TV.

3 Set TV/VTR to VTR so that the VTR indicator lights.

4 Select the programme to be recorded with PROG +/−.

5 Press the recording auxiliary button while pressing ● REC.
Recording begins.

To stop the tape momentarily
Press II PAUSE. The TV programme can still be seen on the TV, but the picture will not be recorded.
To resume recording, press II PAUSE again.

To stop recording
Press ■ STOP.

When the tape reaches its end
The tape will be rewound to the beginning and the power of the unit remains on.

Useful information

When you want to record a programme without watching the TV
Turn off the power of a TV or colour monitor.
Recording takes place as normal.

What does the VTR indicator displayed on the display window indicate?*
The VTR indicator shows what you watch or record the programme selected by the VTR.

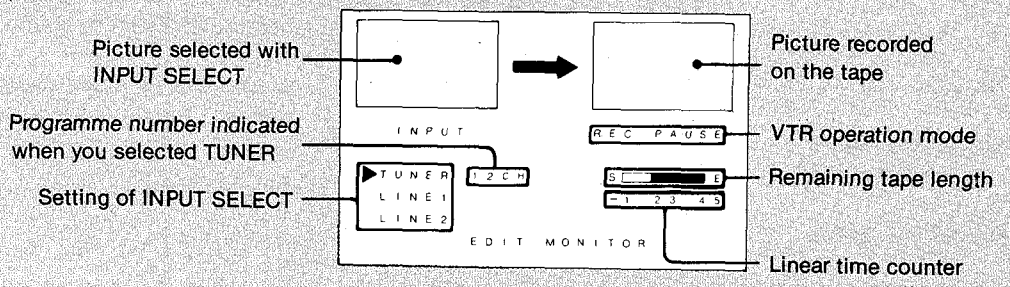
VTR indicator	What you watch
Lit	Programme selected by the VTR
Unlit	Programme selected by a TV
Automatically lit	Playback picture

*The VTR indicator is displayed only when a TV is connected to EUROCONNECTOR.

When the connected TV is equipped audio/video jacks
You do not need to select the channel for the VTR. You can watch the picture from the VTR automatically when you select the VTR input on the TV.

Displaying both the picture selected with INPUT SELECT and that recorded on the tape simultaneously*

Press EDIT MONITOR on the commander or the VTR.



* This function is also useful during recording.

Displaying a picture (left side) selected with INPUT SELECT
You can see the picture selected with INPUT SELECT.
When you press the recording auxiliary button while pressing ●REC, the picture displayed on the left side will be recorded.
During playback or various playback mode, no picture appears on the left side.

Displaying a moving picture (right side) recorded on the tape
The picture recorded on the tape is displayed on the right side during recording. A playback picture appears during playback or various playback mode.

Displaying moving pictures on both sides
You can see moving pictures on both sides when you are recording or performing an insert edit.

Erasing the display above
Press EDIT MONITOR again.

Temporarily Stopping Recording at a Particular Point

You can stop recording when unwanted pictures appear and make the VTR enter the recording pause.

1 **Press ⏸ PAUSE to temporarily stop the recording**
Recording stops and the VTR enters the pause.

2 **Press ⏸ PAUSE at the desired point to release the pause.**

When an unwanted scene has started being recorded

1 **Set the VTR to the recording pause.**

2 **Press ▶ PLAY.**
The VTR enters the playback pause.

3 **Locate the desired point where you wish to continue the recording by rewinding the tape.**

4 **Press the recording auxiliary button while pressing ● REC.**
The VTR will enter the recording pause.

5 **Press ⏸ PAUSE at the desired point.**
Recording begins again.

Viewing One TV Programme While Recording Another

1 **Press TV/VTR so that the VTR indicator goes off.**

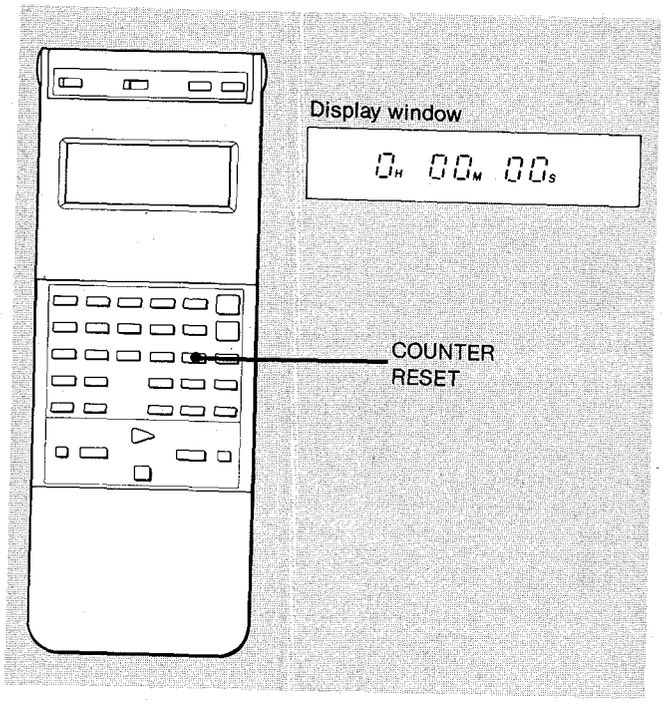
2 **Select the programme you want to view on the TV.**

Notes

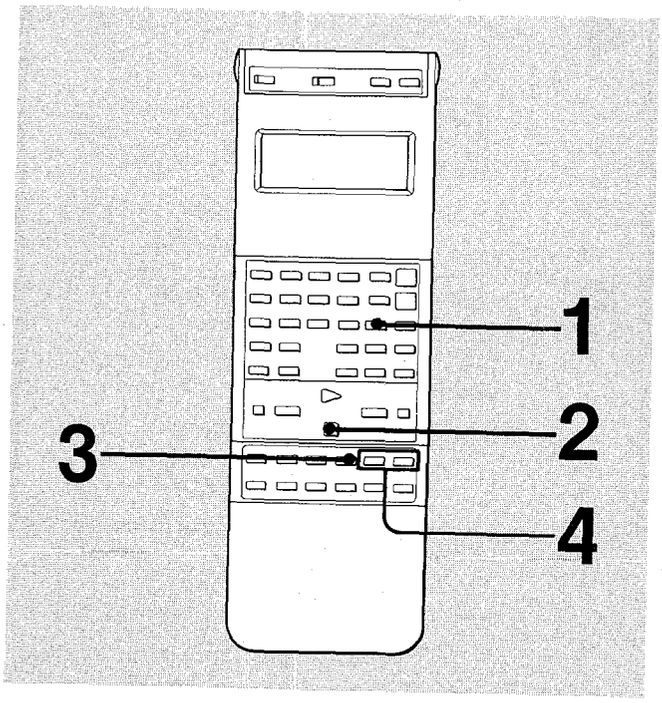
- If you use a colour monitor, you cannot watch another programme during recording unless the monitor has an internal TV tuner.
- If you connect a TV by using an RF cable, you can watch a TV programme by changing the programme selector of the TV.

Use of the Tape Counter

I1



I2



Indexing the Tape Contents I1

Before starting recording or playback, press COUNTER RESET to set the counter to zero. By noting the counter reading at the desired point, you can easily find that point later by referring to the counter. Use the label on the cassette to list the programmes and their counter readings.

Note on counter reading
Even after the cassette is ejected, the counter reading is retained. When the cassette is inserted again, the counter returns to "0H00M00S".

Tape Return/Tape Return Play I2

Tape return

— To stop the tape at a particular point or play back from a particular point

1 **During recording or playback, press COUNTER RESET at the point you want to locate later.**
The counter indicates "0H00M00S".

2 **When recording or playback is finished, press STOP.**

3 **Press AUTO MENU.**
The auto menu is displayed.

4 **Press SELECT to move the cursor to the line "GO-TO ZERO — STOP", and then press EXECUTE.**
The tape is rewound or advanced close to the counter zero point, and stops.

Tape return play

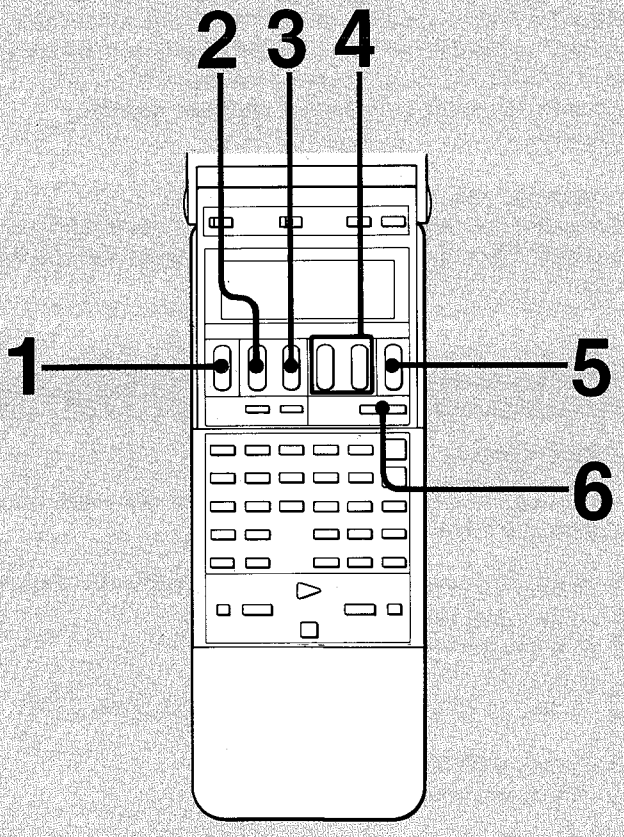
— To start playback automatically from the counter zero point
The operation is almost the same as above except for selecting "GO-TO ZERO — PLAY" in step 4.
The tape is rewound or advanced close to the counter zero point, and playback starts.

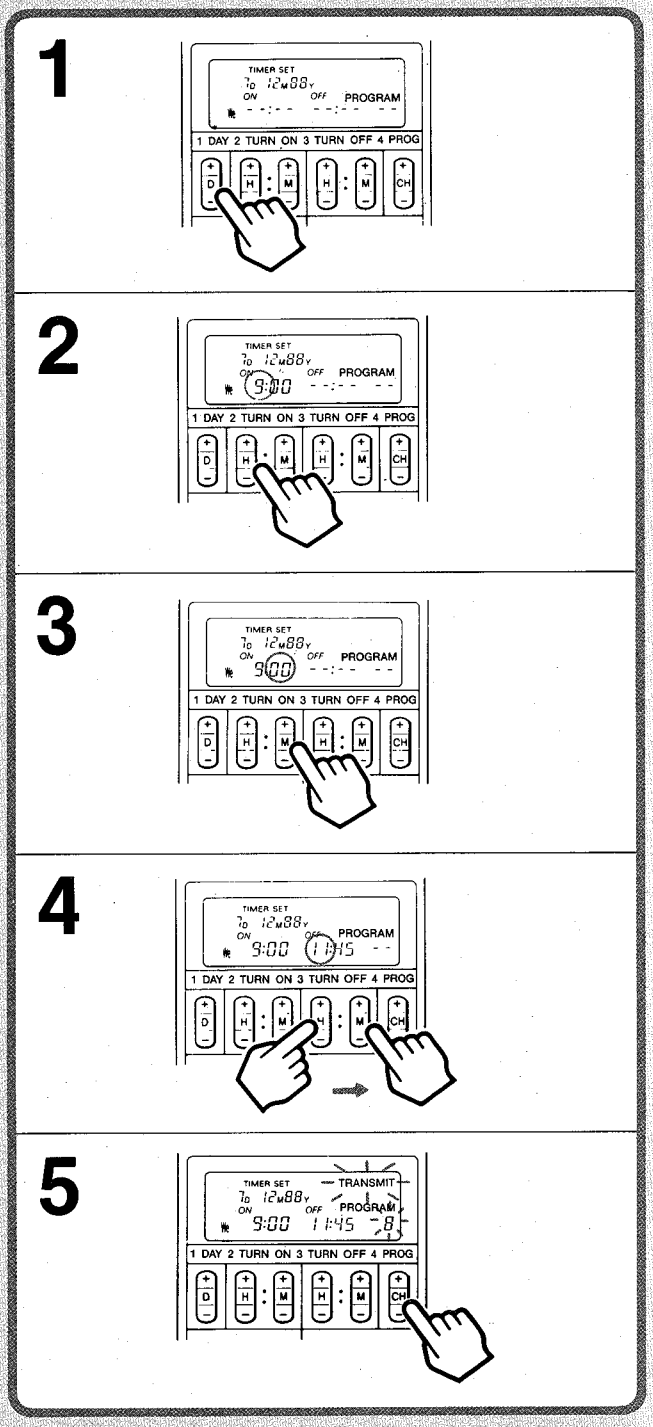
Note

Tape return and tape return play cannot be activated within +/– 30 seconds of the counter zero point.

The tape counter does not work when the inserted tape has no recordings.
The counter does not advance during any portion of a tape with no control signal recorded.

J1


2 3 4
1
5
6


1
TIMER SET
PROGRAM
1 DAY 2 TURN ON 3 TURN OFF 4 PROG
2
3
4
5
TRANSMIT

You can preset up to eight recordings as much as one month in advance.

Check before setting the timer

- The date and clock must be set correctly on the commander. (See pages 18 and 19.)
- Make sure the cassette tape is long enough to record all the programmes.
- Be sure that the safety tab of the cassette is not broken off.
- You can preset the timer without turning on the unit.

Timer Setting by Using a Wireless Commander J1

Suppose you want to make a recording of programme 8 from 9:00 A.M. to 11:45 A.M. on Wednesday, December 7.

1 Open the cover of the commander and set the date with the D button.
The date is set from the day to the month, further to the year. The day of the week is then automatically set.

2 Set the hour of the start time with the H button.

3 Set the minute with the M button.

4 Set the end time with the H and M buttons, referring to steps 2 and 3.

5 Set the programme to be recorded with the PROG button.
The TRANSMIT indicator starts blinking.
To preset another programme, repeat steps 1 to 5.
Up to 8 programmes can be preset.

6 Press TRANSMIT and close the cover of the commander.
When you can set the timer correctly, the beep sounds, and the power, if it has been turned on, is turned off automatically, and the unit enters the standby mode for timer-activated recording.

If necessary, change the INPUT SELECT setting anytime in steps 1 through 5.

After setting, make sure to close the upper cover until you can hear "click".

Automatic power on

The unit is automatically turned on when the set time comes and starts recording. When it completes recording, the power is automatically turned off.

When you could not transmit data
When you close the cover, all data are cancelled.
Press TRANSMIT again without closing the cover to reset data.

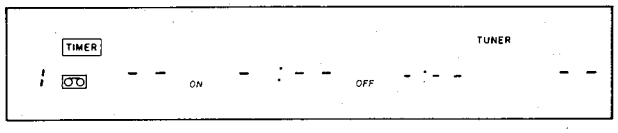
Recording from today to one month later
If today is August 31st, you can set the timer to record a programme broadcasted between today and September 30 (for 31 days).
If today is January 31st, you can set the timer to record a programme broadcasted between today and February 28 (for 29 days). A leap year is automatically considered.

If the safety tab is broken off
If you insert the cassette whose safety tab is broken off, the cassette is automatically ejected when TRANSMIT or TIMER REC ON/OFF is pressed.

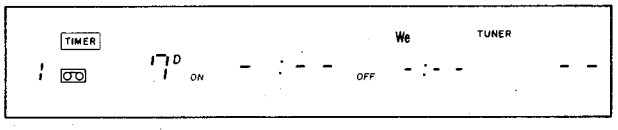
If a short beep sounds again and again when you press TRANSMIT
The unit indicates that the following has occurred:
- Timer-activated operation failed. For example, the past date was preset.
- The unit is in an operation mode other than power-off, stop or timer-activated recording.
- 8 programmes have been preset.
- Tape reaches its end.

Timer Setting by Using Buttons Inside the Front Panel

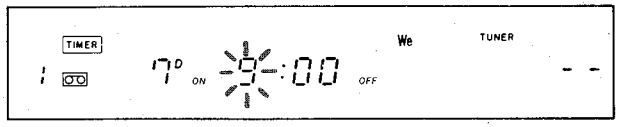
1 **Press TIMER SET.**
The unit is turned on.



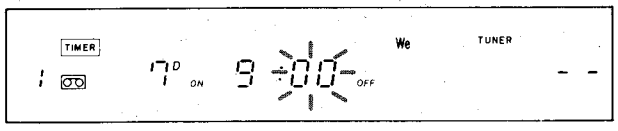
2 **Set the date with Programme/Timer +/−.**
Then press NEXT.



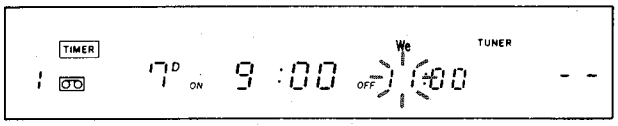
3 **Set the turn-on hour with Programme/Timer +/−.**
Then press NEXT.



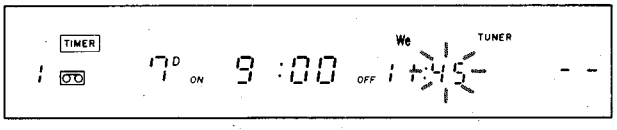
4 **Set the minute with Programme/Timer +/−.**
Then press NEXT.



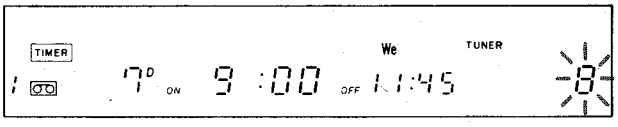
5 **Set the turn-off hour with Programme/Timer +/−.**
Then press NEXT.



6 **Set the minute with Programme/Timer +/−.**
Then press NEXT.



7 **Set the programme to be recorded with Programme/Timer +/−.**
Then press NEXT.

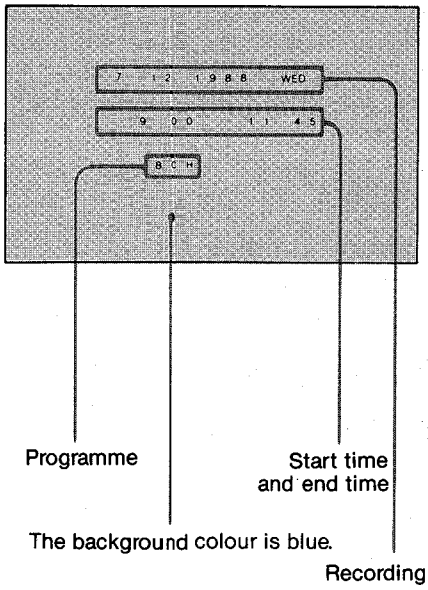


To preset another programme, repeat steps 1 to 7.
Up to 8 programmes can be preset.

8 **Press TIMER REC.**
The power is turned off and the unit enters the standby mode for timer-activated recording. None of the buttons except TIMER CHECK can operate.

If necessary, change the INPUT SELECT switch setting anytime in steps 1 through 6.

J2



Superimposing the title over the blue background — Timer Title J2

You will automatically record the timer title for 3 seconds at the beginning of recording.
30 seconds before the timer-activated recording starts, the power is automatically turned on and the title such as above is recorded for 3 seconds. After that, the VTR enters the standby mode and start recording at the start time.

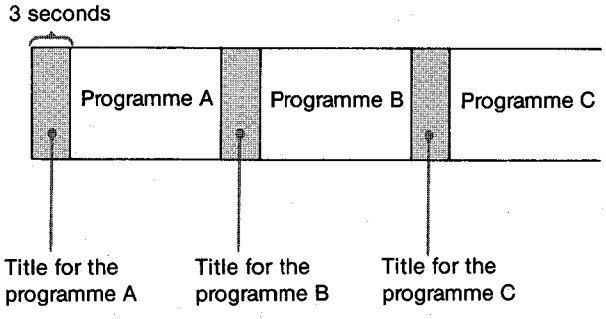
J3

This function is conveninet to search for a certain programme on the tape where many programmes were recorded.

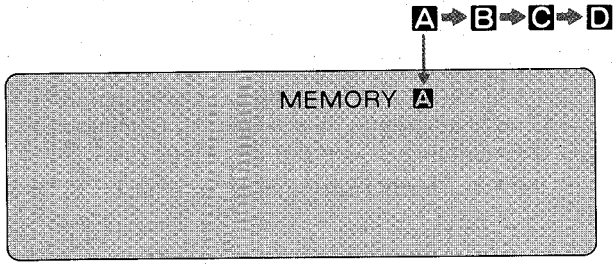
Note

If you set VPS (SLV-402 only) inside the front panel to ON, the timer title cannot be recorded.

J3



J4



Storing the Date and Time for Recording in the Commander's Memory J4

Normally the data for timer-activated recordig, such as the date and the start time is cleared after the recording is completed. However, you can store the data for up to four kinds of recording in the memory by using MEMORY on the commander.

Memory storing

1 Press MEMORY to indicate A.
Every time you press MEMORY, the indicator changes in alphabetical order.

2 Set the programme, date, start time and end time by referring to page 40 through this page.

Repeat these steps to store the recording data in the memory B, C and D.

Recalling the data stored in the memory

1 Press MEMORY to select the memory: A, B, C or D.

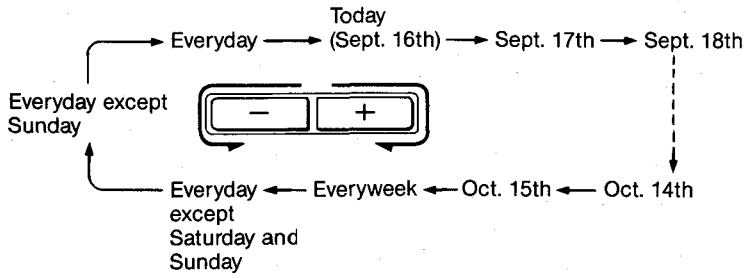
2 Press TRANSMIT on the commander.
When the data is transmitted correctly, a beep sounds and the VTR enters the standby mode for timer-activated recording.
Recording starts at the set time.
If it fails, a short beep sounds again and again.

Memory function can make video taping easily
If you watch a certain weekly programme, this function is useful to record only the programme broadcasted in the desired week because your favorite actor or singer will appear. The contents stored in the memory is not cleared after the start time to record, and the date is automatically renewed.

Erasing the data stored in the memory
You cannot clear the data stored in the memory, but you can change the stored data.

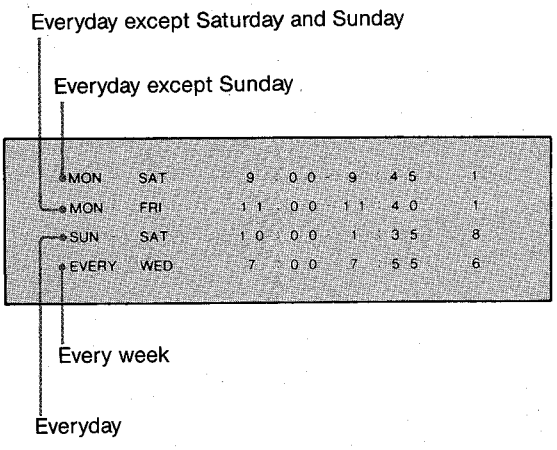
Every week recording and every day recording

Keep pressing D on the commander or Programme/Timer +/– on the VTR to display the following indicator in the following order. You can set the timer-activated recording for the same time everyday or on the same day.

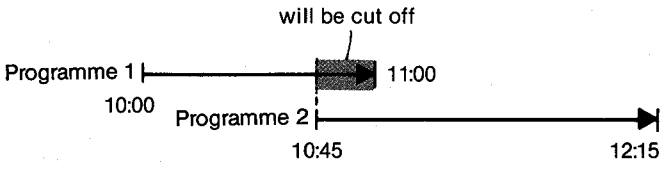


The day(s) you want the recording(s) made	Liquid-crystal display	Dispay window
At the same time on the same day every week	TIMER SET EVERY WEEK Su	EVERY WEEK Su
At the same time everyday from Monday to Friday	EVERY WEEK Mo Tu We Th Fr	EVERY WEEK Mo Tu We Th Fr
At the same time everyday from Monday to Saturday	EVERY WEEK Mo Tu We Th Fr Sa	EVERY WEEK Mo Tu We Th Fr Sa
At the same time everyday	EVERY WEEK Su Mo Tu We Th Fr Sa	EVERY WEEK Su Mo Tu We Th Fr Sa

In the programme list


Everyday except Saturday and Sunday
Everyday except Sunday
MON SAT 9 00 9 45 1
MON FRI 11 00 11 40 1
SUN SAT 10 00 1 35 8
EVERY WED 7 00 7 55 6
Every week
Everyday

J5



When the presettings of your timer-activated recordings overlap J5

The recording of programme 2 will begin before programme 1 is finished.

If the turn-on time of two programmes are the same
The recording of the programme having the lower programme number will be made. The memory of the programme having the higher number will be cleared.

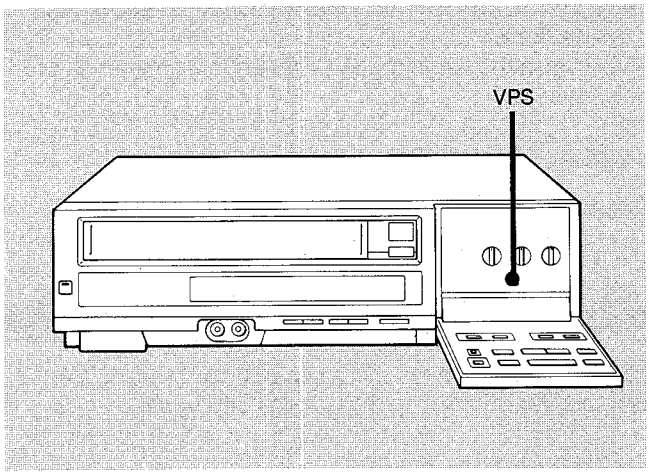
Troubles when TIMER REC ON/OFF is set to ON

The cassette is ejected automatically.	The saftey tab of the inserted cassette is broken off.
The TIMER indicator does not appear.	•No cassette is inserted. •The tape is at its end. •The turn-on time is set from a time before the current time.

Information about timer-activated recording
- When the recording is completed, the memory of the programme is erased if it is for only one day and the timer programme numbers advance one by one.
- When the tape is at its end before the turn-off time, recording stops and the power is turned off.
- The tape is not automatically rewound when it is at its end.

If a power interruption occurs
- If a power interrpution lasts less than approx. three hours while the VTR is waiting for the preset time, the VTR enters the standby mode again.
  (If a power interruption occurs before a timer recording, the memory is cleared. Set the date and time to preset the data for timer-activated recordings.)
- If a power interruption lasts less than three hours during timer recording, the VTR starts recording again and the tape counter indicates "0H00M00S".
  (If a power interruption occurs during a time recording, recording stops and the power is turned off.)

J6



VPS (Video Programme System) Function (SLV-402 Only) J6

To avoid missing a timer-activated recording because of a delay in the transmission sequence or a change in the programme schedule, the West German broadcasting stations have agreed to transmit a special code, called the VPS (Video Programme System) code, together with the TV programme. The SLV-402 is equipped with a VPS switch which allows you to preset recording times and insures that your programmes will be recorded regardless of delays.

1 Set VPS to ON.

2 Set the timer to the time listed in the VPS programme guide which corresponds to the programme you want to record. (Refer to "Timer Setting by Using a Wireless Commander" or "Timer Setting by Using Buttons Inside the Front Panel" for timer setting.)

If the timer is set between 4:00 AM and 11:59 PM, the VTR is turned on at 0:00 AM to be prepared for recording, and will remain prepared until 4:00 AM of next day even if the preset programme does not begin.
If the timer is set between 0:00 AM and 3:59 AM, the VCR is turned on at 8:00 PM of the previous day to be prepared for recording and will remain prepared until 4:00 AM of next day even if the preset programme does not begin.

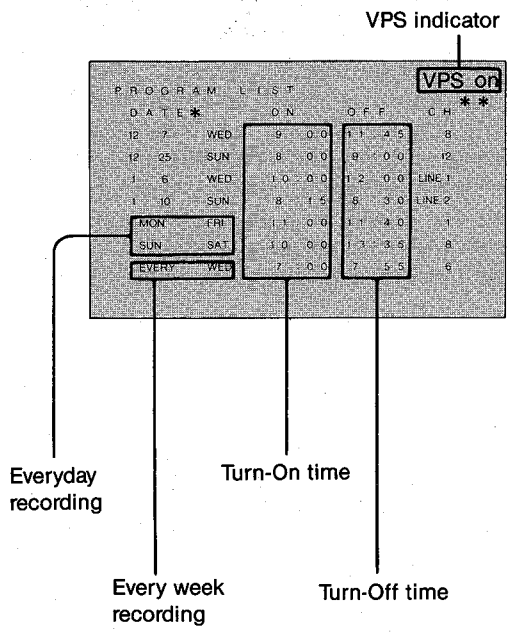
Notes

- You can set VPS to ON only when the TIMER REC indicator is off.
- If the station you want to record fails to transmit the VPS code signal with the programme, or the VPS code cannot be detected for some reason by the VTR, recording will begin at the time you have preset.
- When the VTR receives a VPS programme interruption code during recording (for example, when an urgent news bulletin is inserted), it will stop recording. As soon as the interrupted programme resumes, recording will continue.
- The timer title cannot be recorded when VPS is set to ON.

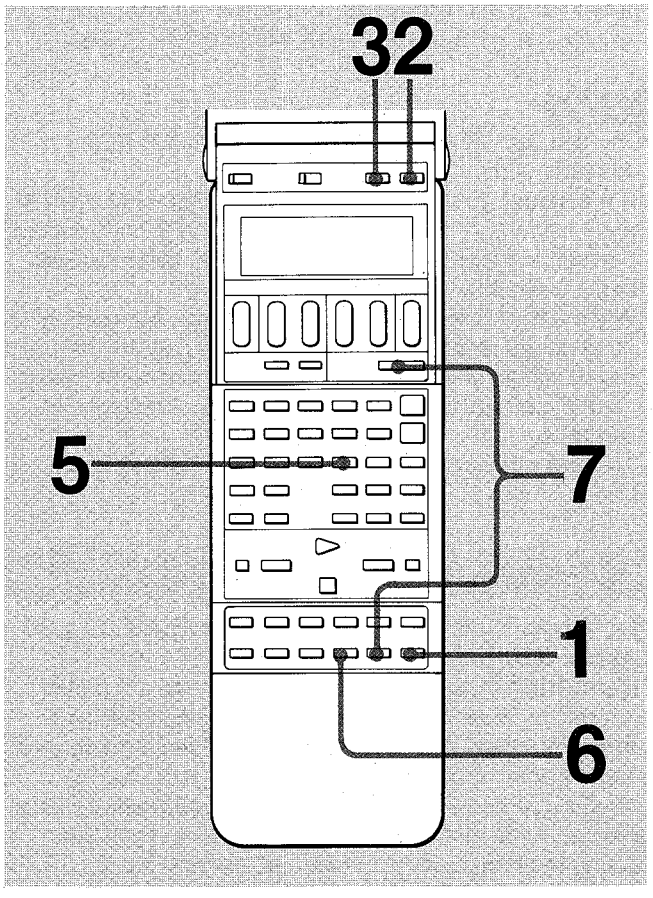
Multi-programme recording

The VPS function allows you to record several successive programmes.
Occasionally, these programmes may overlap or conflict with one another. If you are recording two successive programmes and the first is delayed past the starting time of the second, the second programme is recorded as scheduled. Recording of the first programme will not take place until the recording of the second is finished even though the broadcast of the first programme starts.

J7



J8



Checking Timer Setting J7

Press TIMER DISPLAY on the commander to check the timer settings.
The programme list in the left column is displayed on the data screen.

Erasing the programme list

Press TIMER DISPLAY again.

Cancelling/Changing the Timer Settings

You can cancel/change the timer settings by using the commander or by using the buttons on the VTR.

Using the commander J8

1 Press TIMER REC ON/OFF.
The TIMER REC indicator disappear on the display window.

2 Turn on the VTR.

3 Press TV/VTR to display the VTR indicator.

4 Set the TV programme selector for the VTR.

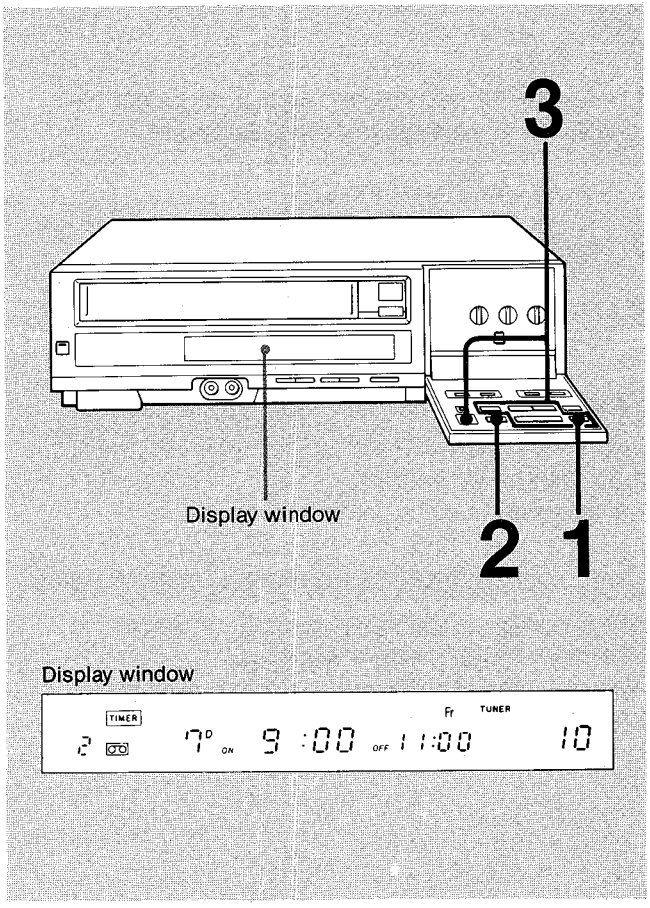
5 Press TIMER DISPLAY.
The programme list appears.

6 Press TIMER CHECK and move the cursor by pressing TIMER CHECK to the setting you want to cancel/change.

7 To cancel the setting, press CLEAR.
To change the setting, preset the data for the new recording while observing the liquid-crystal display, and press TRANSMIT.
The VTR enters to the standby mode for timer-activated recording.

On the program list
*The date is displayed in the following order: month and day.
**Program numbers are displayed.

J9



Using the buttons on the VTR J9

1 Press TIMER REC ON/OFF.
The TIMER REC indicator disappears on the display window.

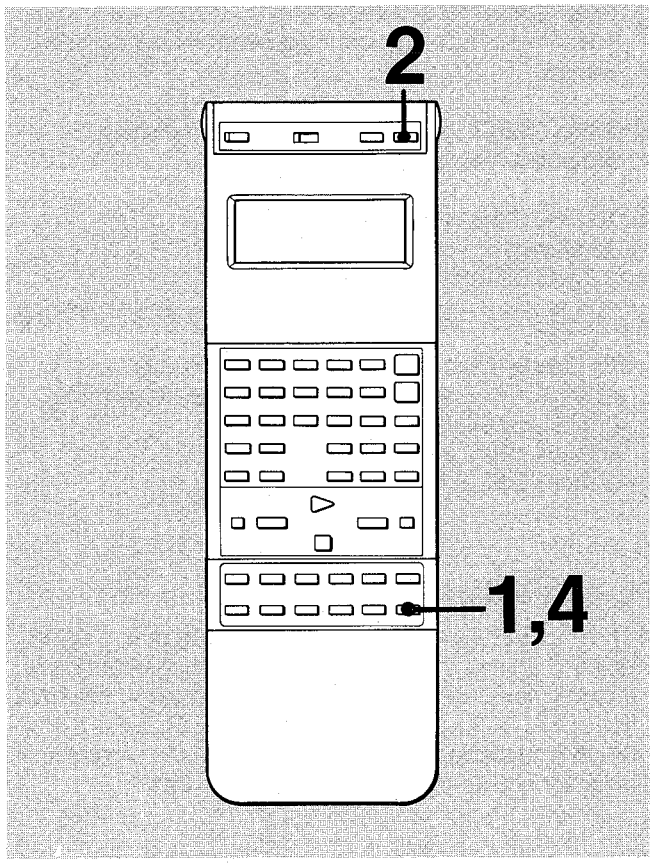
2 Press CHECK again and again until the desired programme number appears.

3 To cancel the setting, press CLEAR.
To change the setting,
1 Press TIMER SET.
2 Press NEXT again and again until the desired setting blinks.
3 Change the setting with Programme/Timer +/−.
4 Press NEXT again and agian until the programme indicator blinks.
5 Press NEXT again.
6 Press TIMER REC ON/OFF.

Notes on timer setting

- INPUT SELECT can be set anytime during timer setting.
- When changing the setting to make a timer recording of a programme from the equipment connected to the LINE IN 1, LINE IN 2 jack or EUROCONNECTOR, press INPUT SELECT to display the L1 or L2 indicator. (The programme indicator should not blink.) Then press NEXT.

J10



Using the VTR Before Timer-Activated Recording Starts

J10

1 **Press TIMER REC ON/OFF so that the TIMER REC indicator in the display window disappears.**

2 **Turn on the power of the VTR.**

3 **Operate the VTR.**

4 **Press TIMER REC ON/OFF again so that the TIMER REC indicator appears.**

Stopping a timer-activated recording after starting recording

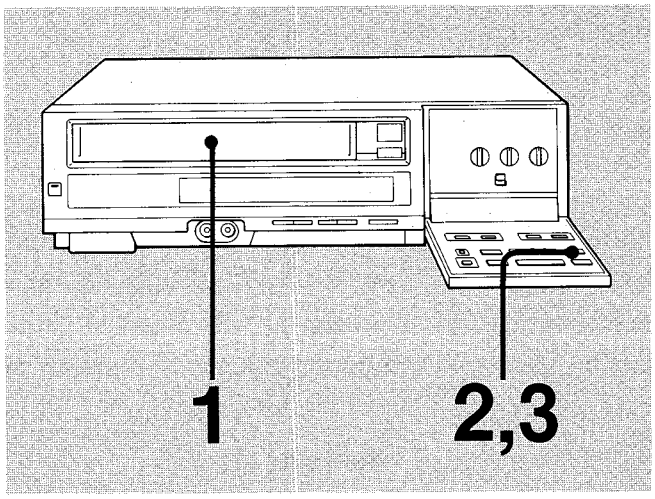
Press TIMER REC ON/OFF.
The tape stops and the power is turned off.

The buttons which can operate during timer recording

TIMER CHECK, COUNTER RESET, TV/VTR, EDIT MONITOR, TIMER DISPLAY are operable.
When you press TV/VTR, you can watch another programme.

Quick Timer Recording

K1



Why do you use this function?

Use this function when you want to begin recording a programme immediately and do something right away. The recording duration can be set for **up to 4 hours by 30-minute interval.**

Before operation

INPUT SELECT is set to TUNER (i.e. TUNER indicator appears.)

Operation K1

If you are recording now, perform only step 3.

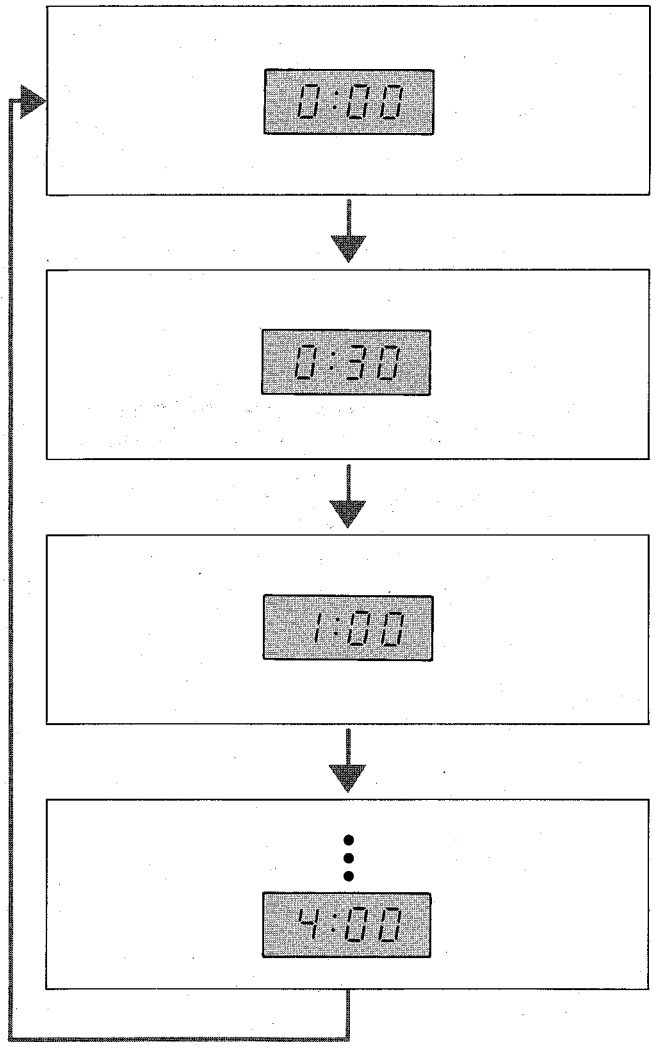
1 Insert a cassette.

2 Press QUICK TIMER.
You can change the programme with Programme/Timer +/– while the programme indicator is blinking.

3 Press QUICK TIMER so that the recording starts. Now decide the recording duration.
Every time you press QUICK TIMER, the recording duration displayed increases by 30 minutes up to 4 hours.

You can go out or sleep after turning off the TV. The power of the VTR is turned off automatically at the preset time.

K2



K2 **Recording duration indication**

Every time you press QUICK TIMER, the recording duration indication changes as follows:

0:00	The power will be turned off 30 seconds later. The current time will be displayed on the dispaly window.
0:30	30 minutes
1:00	one hour
4:00	four hours

You can change the recording duration with QUICK TIMER even while quick timer recording. During recording, the displayed recording duration decreases minute by minute.

Operable buttons during quick timer recording

PAUSE	to stop quick timer recording momentarily
TIMER REC ON/OFF	to stop quick timer recording
QUICK TIMER	to change recording duration
TIMER DISPLAY	to check timer programmes preset
TIMER CHECK	to check timer programmes preset
COUNTER RESET	to reset the tape counter to zero
INDEX MARK	to record an index signal
EDIT MONITOR	to check the VTR
TV/VTR	to watch the picture broadcasted on another programme

While the VTR is in the standby mode for timer-activated recording
QUICK TIMER cannot operate when the TIMER REC indicator is displayed.
Press TIMER REC ON/OFF to make this indicator disappear, and then press QUICK TIMER.

When the tape reaches its end during quick timer operation
Recording stops and the power is turned off. The tape is not be rewound automatically.

When you insert the cassette whose safety tab is broken off
The cassette is ejected automatically when you press QUICK TIMER.

When a power interruption occurs during quick timer recording
Recording stops and the power is turned off. If power interruption lasts less than three hours and is recovered within quick timer setting time, recording starts again.

Index Function

The desired programme can be easily located by the index signal marked on the tape.

Marking Index Signals

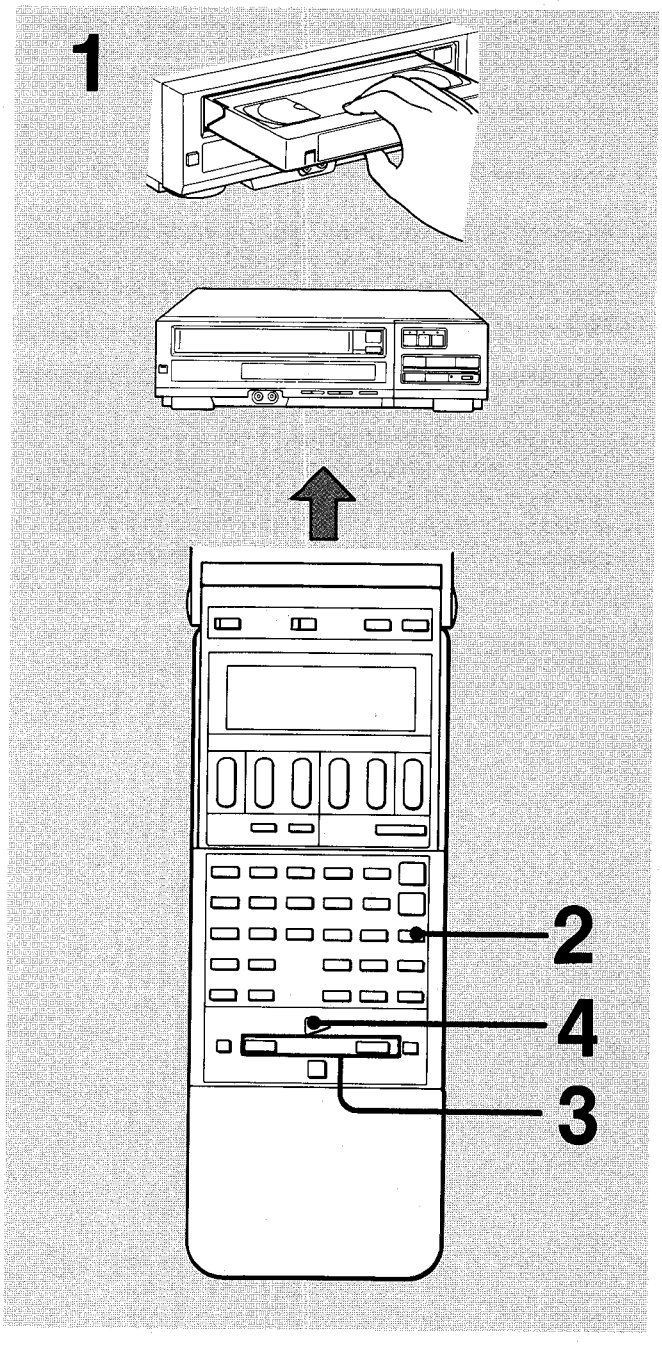
Automatic marking during recording
An index signal is automatically marked on the tape when a recording or a timer recording starts.
The INDEX indicator blinks on the display window while an index signal is being marked.

Marking index signals manually
Index signals can be marked at any desired point on the tape during recording, timer recording, normal playback or performing an insert edit.
Press INDEX MARK at the point where an index signal is to be marked.
The INDEX indicator blinks on the display window while an index signal is being marked.

Notes
- Mark an index signal more 4 to 5 minutes after the previous index signal so that the VTR can detect it correctly.
- While an index signal is being marked during playback, the recorded sound is not heard, but it is not erased.

When you cannot mark an index signal
- Index signals cannot be marked on the cassette tapes whose safety tab is broken off.
- Index signals cannot be marked on the unrecorded portion of the tape.

L1



Playing Back the Beginning of Each Programme in Sequence — INDEX SCAN L1

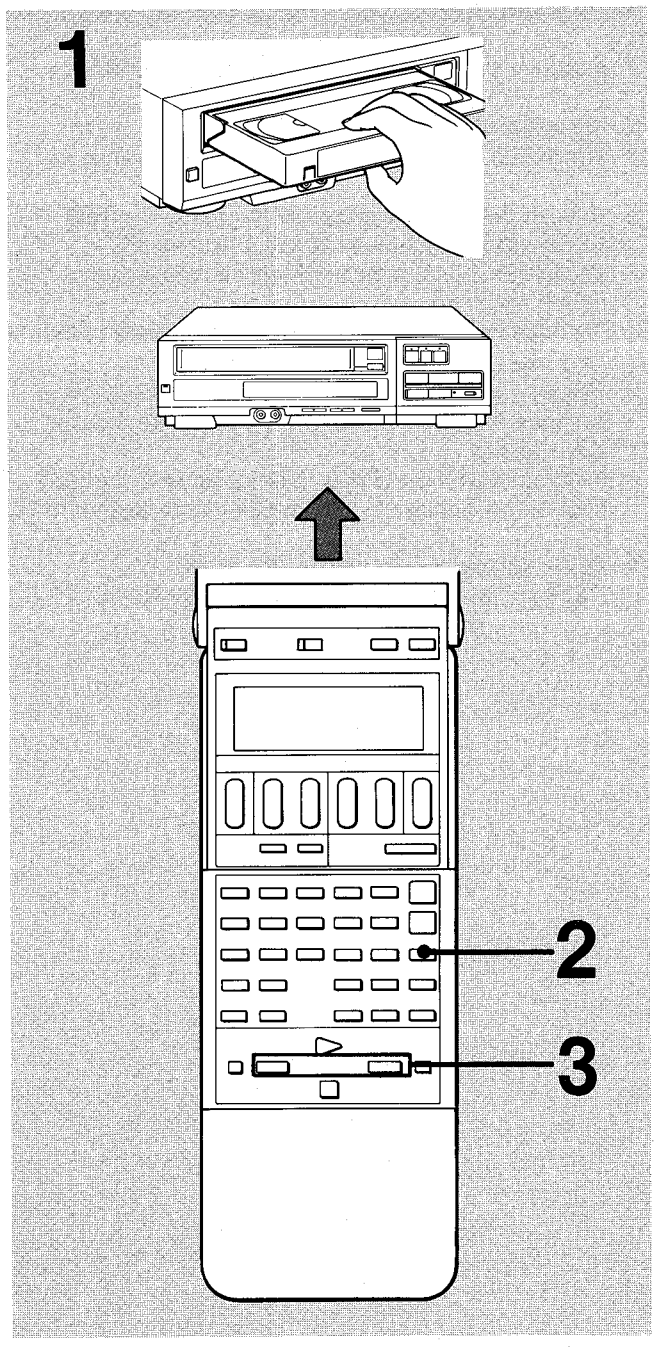
1 **Insert a cassette that has index signals marked.**

2 **Press INDEX once.**
The INDEX indicator blinks on the display window.

3 **To scan the previous programmes, press ◄◄ REW.**
To scan the programmes ahead, press ►► FF.
The INDEX SCAN indicator blink simultaneously during scanning.
The tape will be rewound or rapidly advanced to the next index signal marked.
The tape will be played back for approximately 10 seconds, and then rewound or advanced to the next index signal.
Every time an index signal is detected and playback begins, the displayed index number increases up to 19.

4 **At the desired programme, press PLAY.**
Normal playback of that programme will begin.

L2



Locating the Desired Programme — INDEX SEARCH

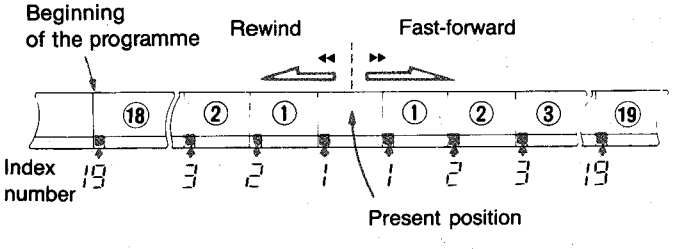
You can locate the desired programme and play it back automatically by designating the number of its index signal. L2 Up to 19th index signal from the present position on the tape can be located. L3

1 **Insert a cassette that has index signals marked.**

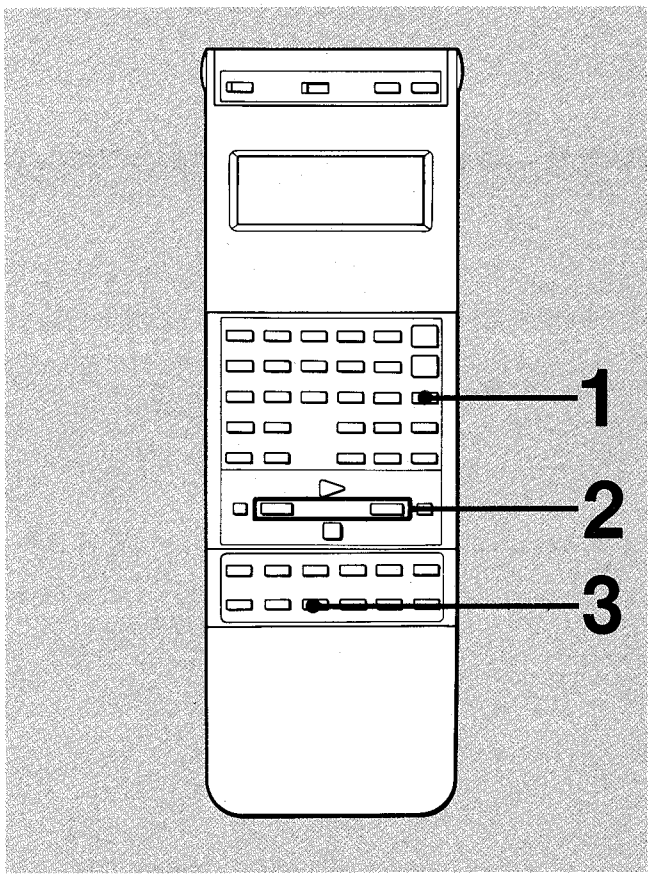
2 **Press INDEX several times until the index number of the desired programme is displayed.**
The INDEX indicator and the INDEX SEARCH number light up on the display window.

3 **To locate a previous programme on the tape, press ◄◄ REW.**
To locate a programme ahead, press ►► FF.
The tape will be rewound or rapidly advanced. Every time an index signal is detected, the INDEX SEARCH number will decrease. When the number reaches 0, playback of your desired programme will begin.

L3



L4



Erasing Index Signals L4

You can erase unnecessary index signals.

1 Press INDEX once.

2 Press ◄◄ REW or ►► FF.
The tape is rewound or rapidly advanced. Every time an index signal is detected, the tape is played back and then rewound or advanced to the next index signal.

3 Press ERASE within approx. 10 seconds after you have made sure of the playback picture.
The index signal is erased, and then index scan resume.
While an index signal is being erased, the recorded sound is not heard, but it is not erased.

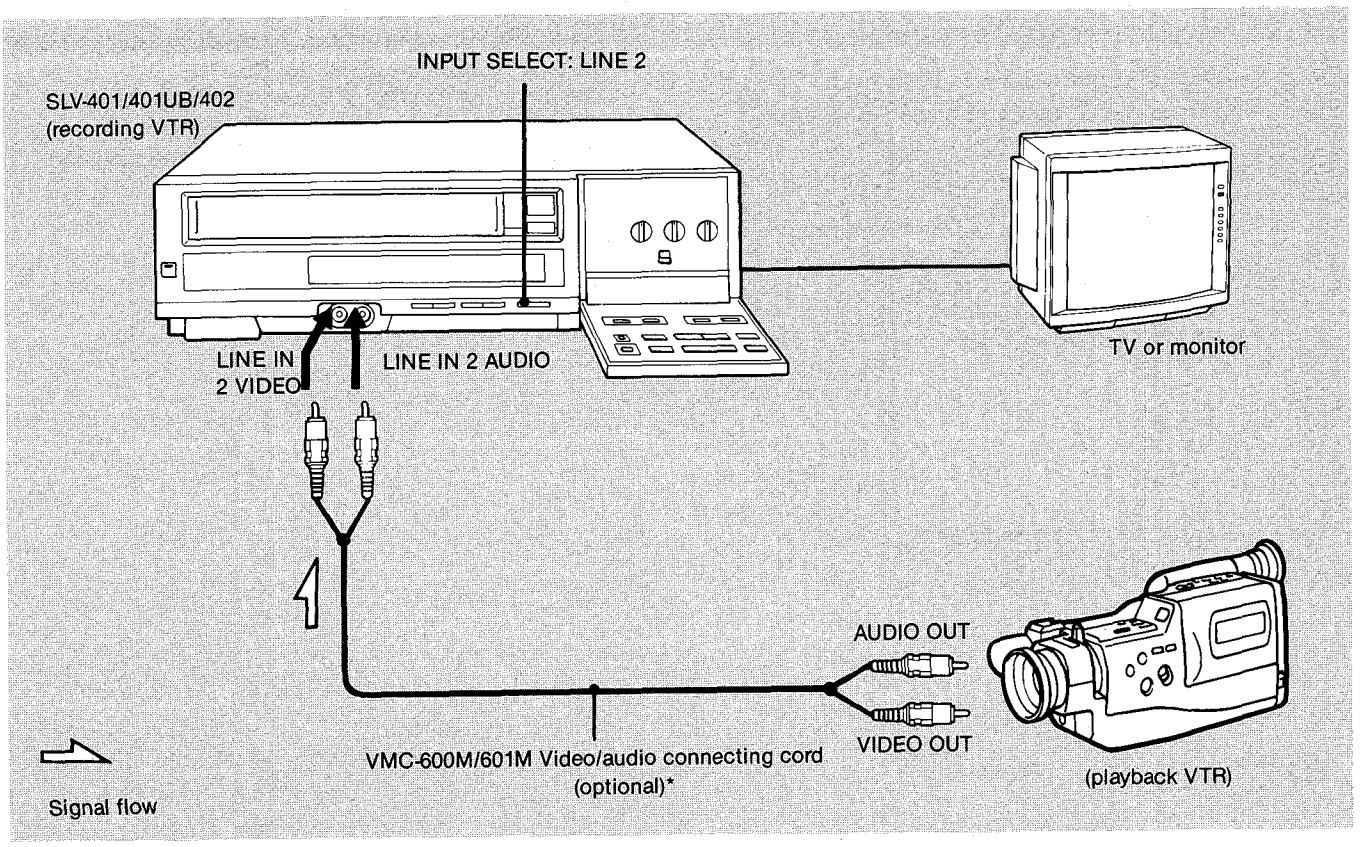
Tape Editing

To edit a home movie tape, you need two video cassette recorders.

If your other VTR is a Sony VTR equipped with control terminals, see page 59 and more for further systematic operations.

Editing a Home Movie Tape from Another VTR to This VTR

Example: From an 8mm video camera recorder to this VTR



1 Insert a recorded cassette into the 8mm video camera recorder and start playback.

2 Start recording with this VTR.

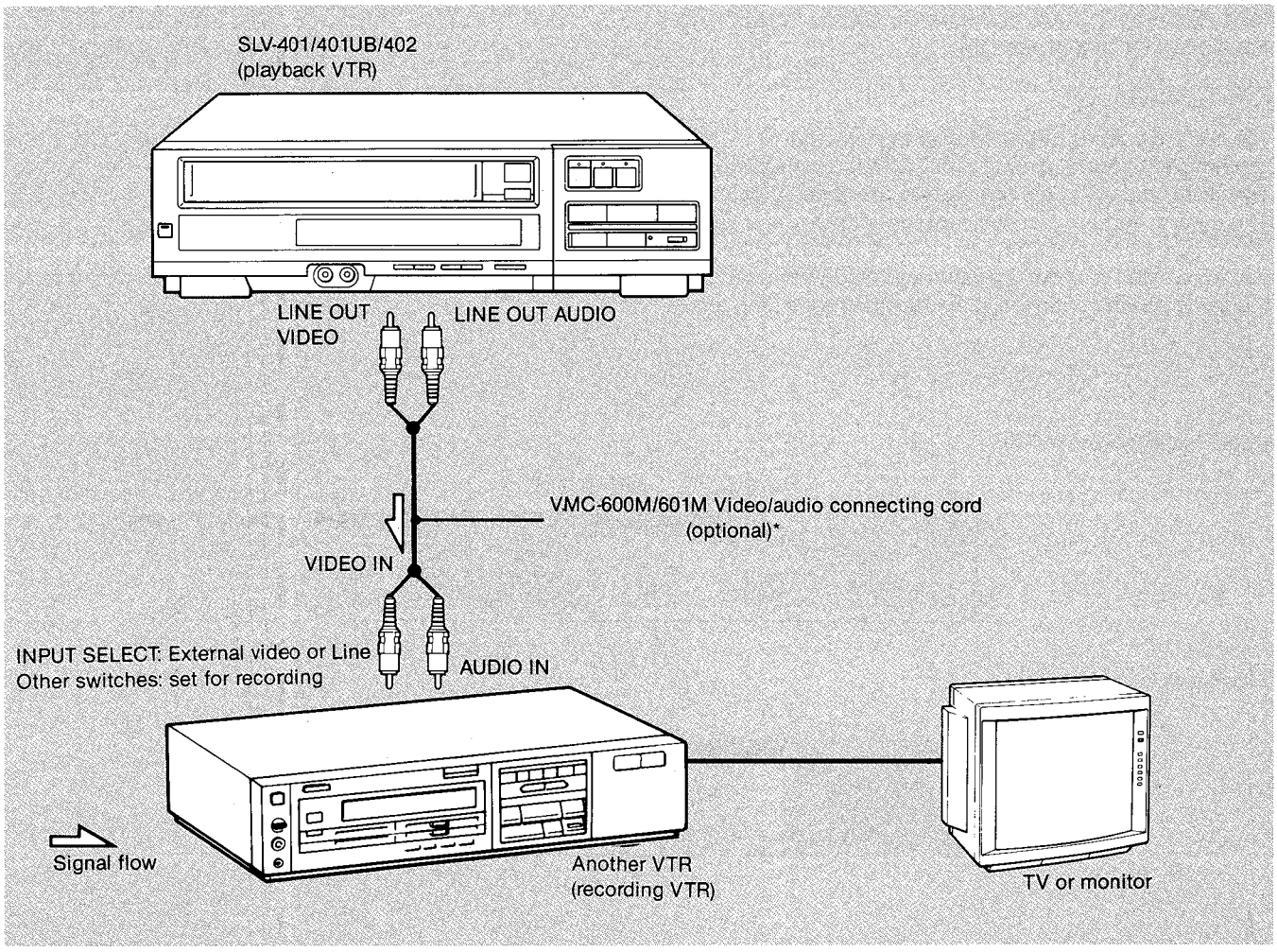
This VTR's flying erase head allows continuous recordings without disturbance. When editing with another VTR, use this VTR for editing and the other VTR for playback.

* If another VTR has the AUDIO L and R jacks, use the VMC-602MS/603MS (optional).

Note
When the video camera recorder is set to play back a high-speed picture, the screen of the TV or monitor may become dark.

Editing a Home Movie Tape from This VTR to Another VTR

Example: From this VTR to another VTR



Note

Do not connect another VTR to both the LINE IN and LINE OUT jacks of this VTR. This may cause hum noise.

* If another VTR has the AUDIO L and R jacks, use the VMC-602MS/603MS (optional).

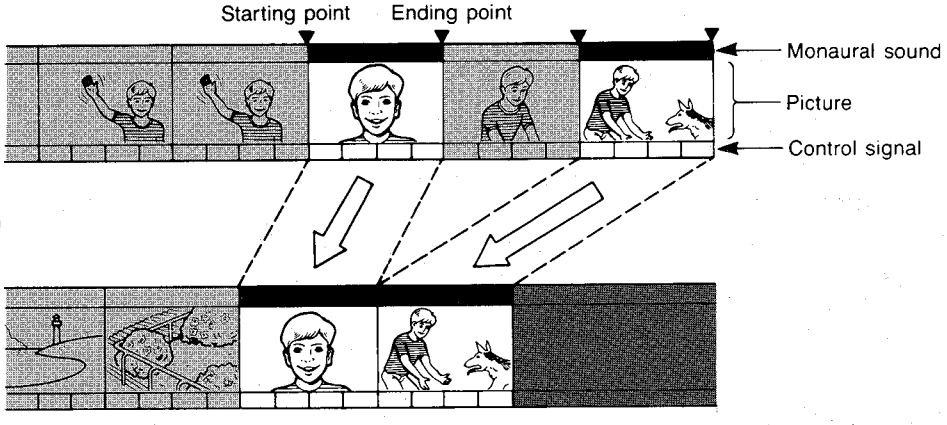
Editing with a Sony VTR Equipped with a Control Terminal
— Synchronized Editing

If you have another Sony VTR equipped with control termianls, such as a CONTROL S or L jack, connect the control terminals of the other VTR and this VTR in addition to the video and audio connections. With this connection, you can start playback, momentarily stop, start recording the tape at the particular point selected by the other VTR simultaneously.

Assemble editing

The desired scenes of the original tape can be "assembled" (recorded) onto another tape successively. The video, audio and control signals are edited together. This kind of editing is convenient for editing with a VTR with a control terminal. You can cut, for example, the portion where the ground was unexpectedly recorded or the same scene continued to be recorded for a long time.

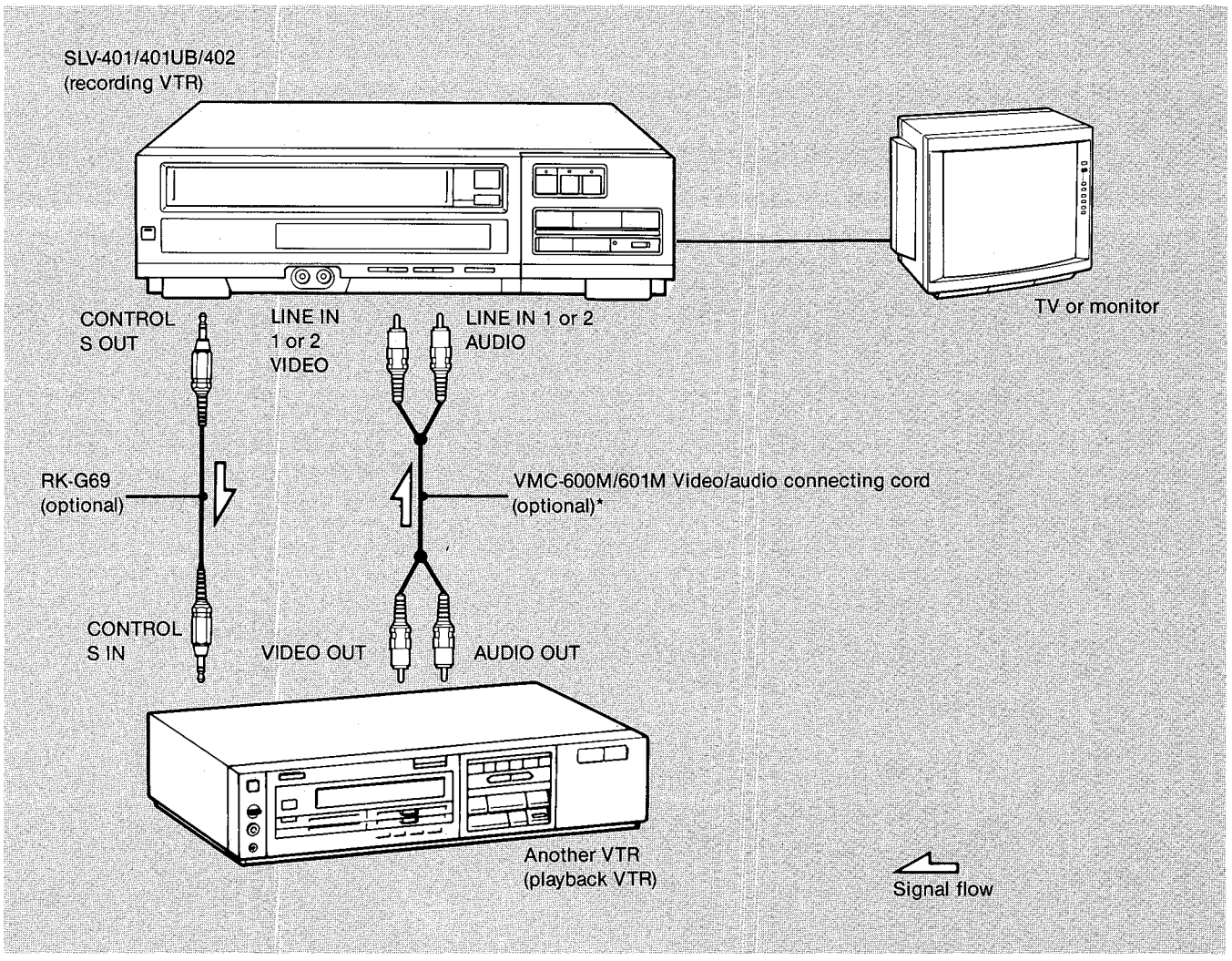
Original tape (playback VTR)



Edited tape (recording VTR)

Connecting a VTR Equipped with a Control S Jack

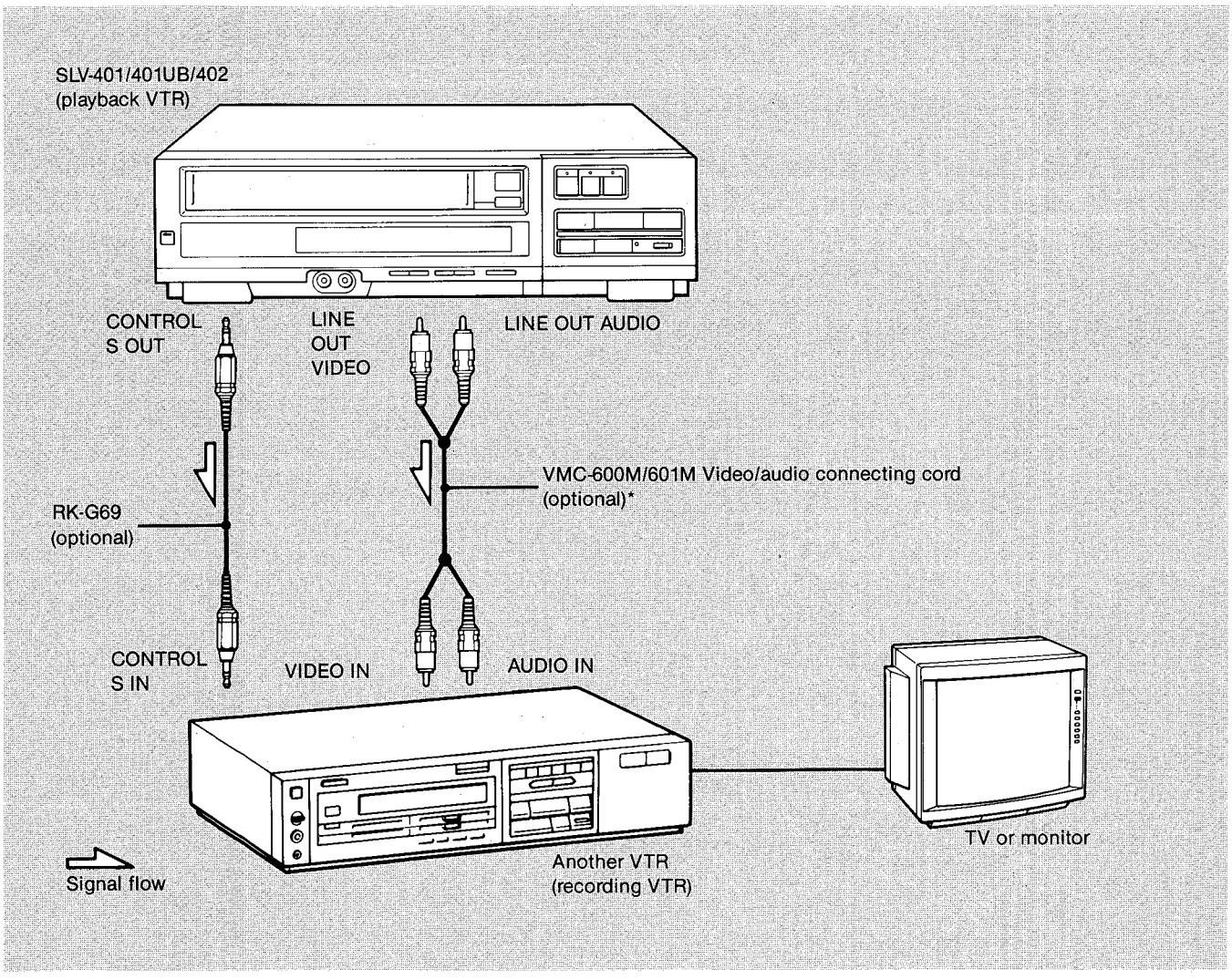
Editing from the other VTR to this VTR



* If another VTR has the AUDIO L and R jacks, use the VMC-602MS/603MS (optional).

Connecting a VTR Equipped with a Control S Jack

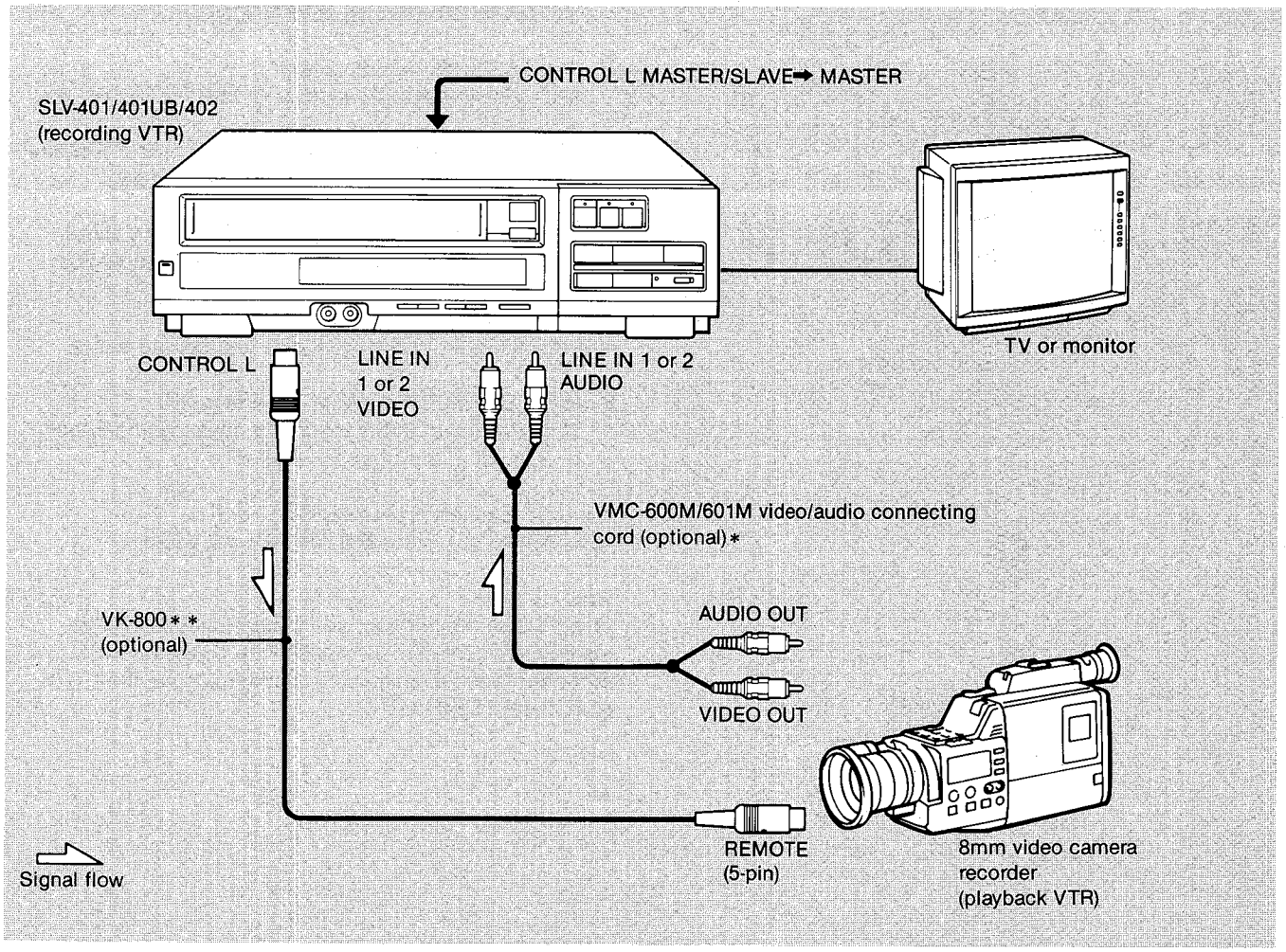
Editing from this VTR to another VTR



* If another VTR has the AUDIO L and R jacks, use the VMC-602MS/603MS (optional).

Connecting a VTR Equipped with a Control L Jack

You can edit the tape played back with the 8mm video camera recorder equipped with a 5-pin remote terminal.



Note

When the video camera recorder is set to play back a high-speed picture, the screen of the TV or monitor may become dark.

* If another VTR has the AUDIO L and R jacks, use the VMC-602MS/603MS (optional).
** If the REMOTE connector of the connected 8mm VTR is a stereo mini jack, use VK-810.

System expansion

If you connect a RM-E100V editing controller (optional) and two VTRs, up to 8 desired scenes of the original tape can be automatically assembled.

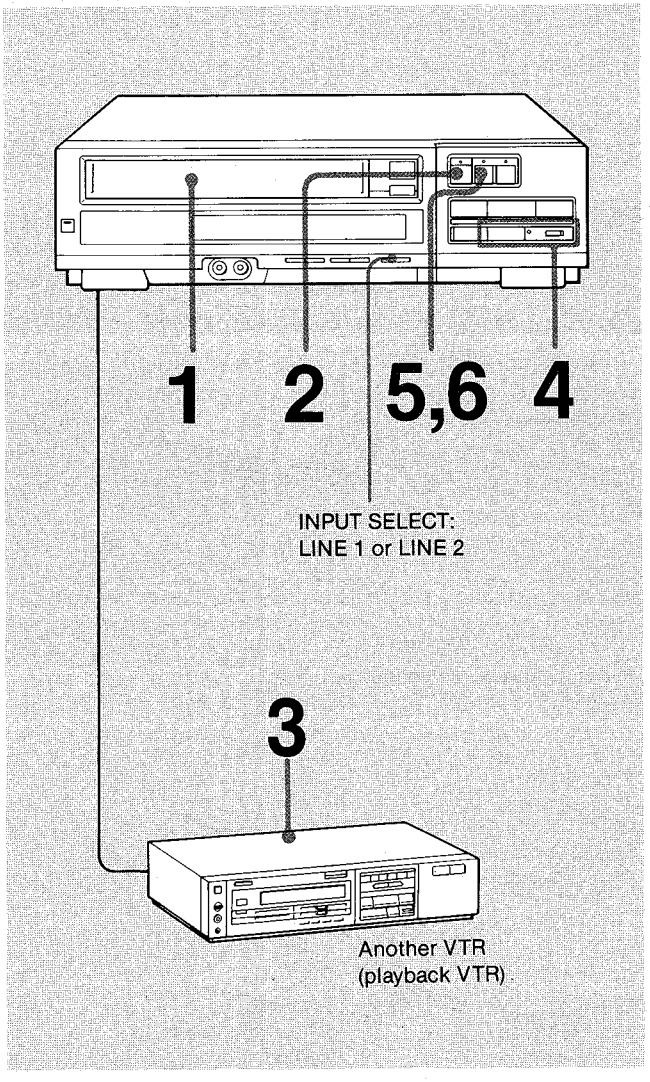
CONTROL L MASTER/SLAVE switch setting

When you connect the optional RM-E100V editing controller or RM-94/RM-84 remote controller, be sure to set CONTROL L MASTER/SLAVE to SLAVE.

Use this VTR as the recorder

It is recommended to use this VTR as the recorder because this VTR is equipped a flying erase head to produce high quality editing.

M1



Synchronized Editing — From Another VTR to This VTR M1

See pages 59 and 61 for connections.

1 **Insert a cassette.**
The power is turned on automatically.

2 **Press EDIT MONITOR.** M2
The following display appears on the TV or monitor.

3 **Play back the tape of the other VTR to find the desired scene and set the VTR in the playback pause.**

4 **Slide ●RECORD to the right while pressing II /▶◀ PAUSE/STILL on this VTR at the start point to edit.**

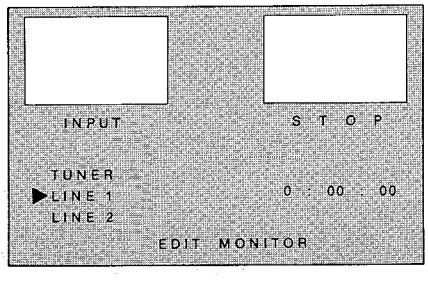
5 **Press SYNC EDIT.**
Both VTRs exit from the pause and editing starts.

6 **Press SYNC EDIT again at the end point.**
This VTR is set in the recording pause, and another VTR is set in the playback pause.

For other scenes, repeat steps 3, 5 and 6.
To finish editing, press ■STOP on both VTRs.

Note
This VTR can record pictures played back at variable speeds so you can make a tape with scenes in slow motion or double-speed during editing (while the SYNC EDIT button lights up.)

M2



Synchronized Editing — From This VTR to Another VTR

See page 60 for connections.

1 **Insert a cassette into the both VTRs.**

2 **Locate the desired scene on this VTR while observing the playback picture, and then set this VTR in the playback pause.**

3 **Locate the starting point to edit on another VTR, and set the VTR in the recording pause.**

4 **Press SYNC EDIT.**

5 **Press SYNC EDIT at the ending point.**

For other scenes, repeat steps 2, 4 and 5.
To finish editing, press ■ STOP on both VTRs.

Note

Do not operate the buttons on either this VTR, the other one, or the wireless commander during editing. Otherwise, a malfunction may occur.

If you use the synchronized editing function of another Sony VTR

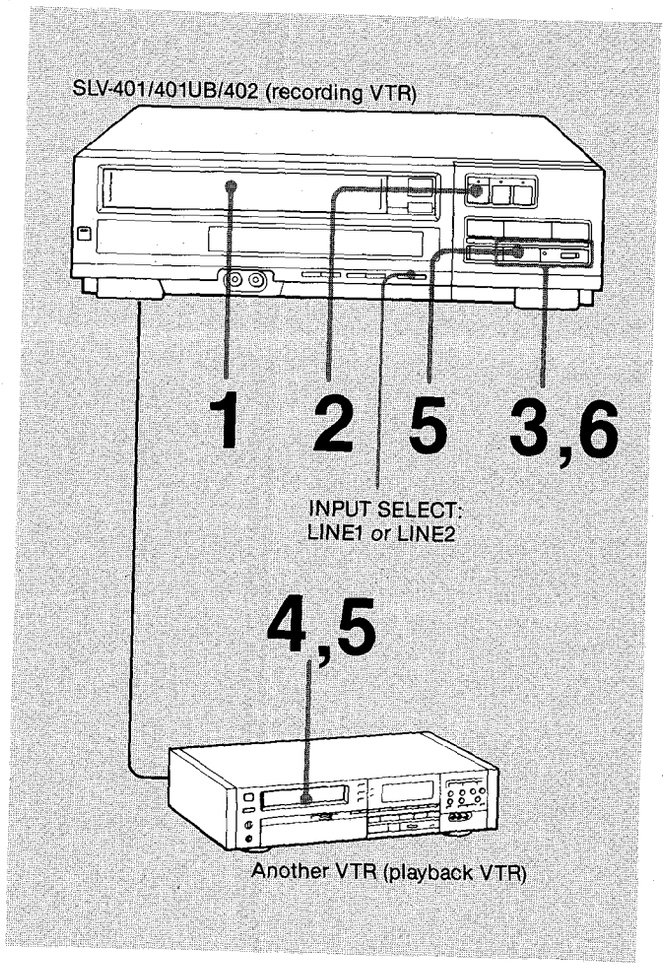
When you connect another VTR through the CONTROL S jack, set COMMAND MODE of this VTR to VTR1 or VTR2. Otherwise, this VTR cannot operate.

Pre-recorded tape

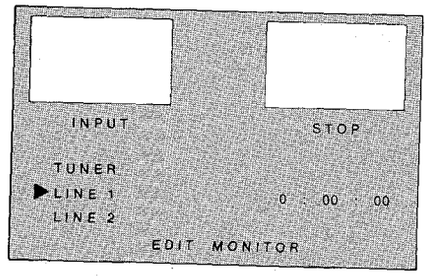
If you try to insert a scene into a pre-recorded tape, the picture inserted will be distorted. To insert a scene, perform insert editing.

Manual Editing with a VTR Not Equipped with a Control Terminal

N1



N2



N1

1 **Insert a cassette.**
The power is turned on automatically.

2 **Press EDIT MONITOR.**
The edit monitor appears on the TV or monitor. N2

3 **Slide ● RECORD to the right while pressing ⏸/⏭ PAUSE/STILL simultaneously on this VTR.**

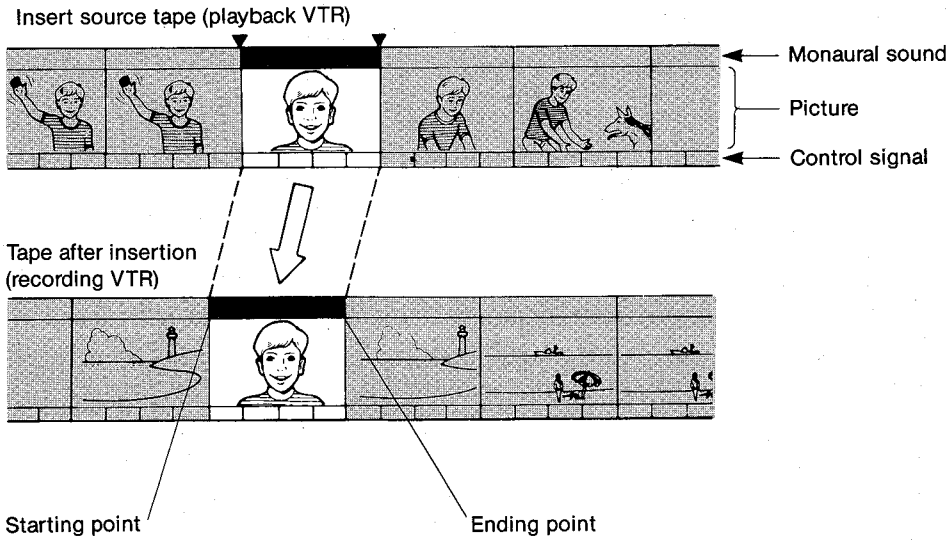
4 **Locate the desired scene on the other VTR and set it in the playback pause.**

5 **Release the playback and recording pause of both VTRs by pressing ⏸/⏭ PAUSE/STILL simultaneously.**
Editing starts.

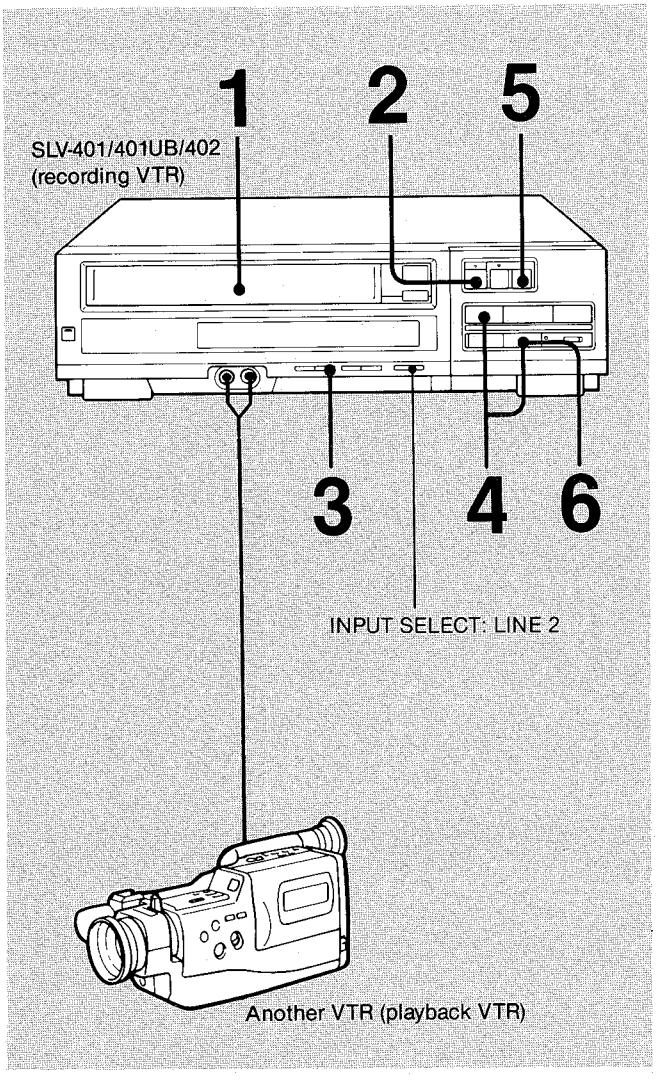
6 **Press ⏸/⏭ PAUSE/STILL of this VTR at the ending point.**

For other scenes, repeat steps 4 to 6.
To finish editing, press ■ STOP on both VTRs.

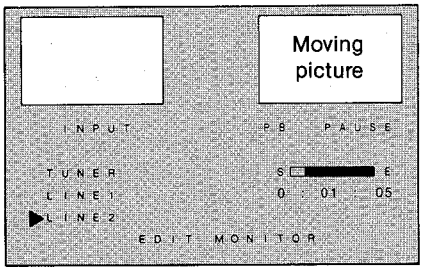
01


Insert source tape (playback VTR)
Monaural sound
Picture
Control signal
Tape after insertion
(recording VTR)
Starting point
Ending point

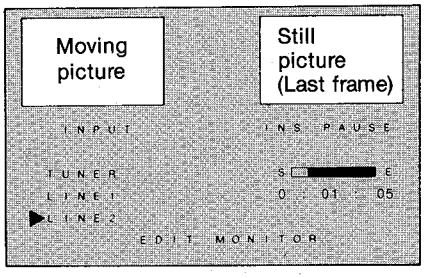
02


1
2
5
SLV-401/401UB/402
(recording VTR)
3
4
6
INPUT SELECT: LINE 2
Another VTR (playback VTR)

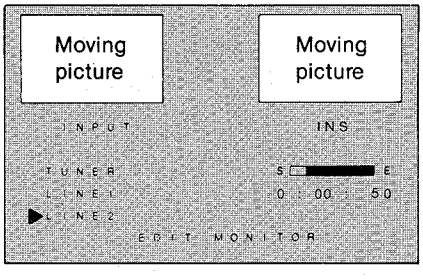
03


Moving
picture
INPUT
PB PAUSE
TUNER
LINE1
LINE2
S E
0 01 05
EDIT MONITOR

04


Moving
picture
Still
picture
(Last frame)
INPUT
INS PAUSE
TUNER
LINE1
LINE2
S E
0 01 05
EDIT MONITOR

05


Moving
picture
Moving
picture
INPUT
INS
TUNER
LINE1
LINE2
S E
0 00 50
EDIT MONITOR

Insert editing O1

You can easily insert (re-record) a new scene onto a pre-recorded tape.
This editing is useful to replace an unnecessary scene with another scene.
Assign the editing points on the recording VTR.

You can select the scenes to be inserted from among the TV and the equipment connected through LINE IN1 or 2 with INPUT SELECT.

Operation of Insert Editing O2

1 **Insert a cassette.**
The power is turned on automatically.

2 **Press EDIT MONITOR.**

3 **With observing the right picture, locate the ending point and press COUNTER RESET.**
The time counter is reset to "0H00M00S" and the ending point is stored in the memory.

4 **Rewind the tape to find the starting point and press ⏸/▶◀ PAUSE/STILL.** O3

5 **Press INSERT.**
The last frame of picture remains in the right picture. O4

6 **With observing the left picture, locate the scene to be inserted on the other VTR and set it in the playback pause.**

7 **Release the playback and recording pause of the VTRs.** O5
Insert editing starts and finishes at the end point "0H00M00S". The plaback VTR continues playing back.

Note

When the video camera recorder is set to play back a high-speed picture, the picture on the left side of the TV or monitor may become dark.

Specifications

System

Format	VHS PAL standard
Video recording system	Rotary two-head helical scanning FM system
Video signal	PAL colour (System B and G: SLV-401/402, System I: SLV-401UB), DDR SECAM colour (SLV-401/402), CCIR monochrome signals 625 lines
Tape speed	23.39 mm/sec.
Maximum recording/playback time	4 hours (E-240)
Fast-forward and rewind time	Approx. 3 min. (E-120)

Tuner section

Tuner system (audio)	Intercarrier system
Channel coverage	SLV-401/402 VHF channels E2 — E12 (A to H only for Italy) CATV channels S01 — S05 CATV channels S1 — S20 HYPER S21 — S41 UHF channels E21 — E69 SLV-401UB UHF channels B21 — B69
RF output signal	SLV-401/402 UHF channels E30 — E39 (adjustable) SLV-401UB UHF channels B30 — B39 (adjustable)
Aerial input	75-ohm asymmetrical aerial socket

Inputs and outputs

Video inputs	LINE IN 1 and 2: phono jacks EUROCONNECTOR: 21-pin (pin 20) 1 Vp-p, 75 ohms, unbalanced, sync negative
Audio inputs	LINE IN 1 and 2: phono jacks 47 kilohms, −8 dBs (0 dBs=0.775 V rms) EUROCONNECTOR: 21-pin (pins 2 and 6) More than 10 kilohms, −4 dBs
Video outputs	LINE OUT: phono jack EUROCONNECTOR: 21-pin (pin 19) 1Vp-p, 75 ohms, unbalanced, sync negative
Audio outputs	LINE OUT: phono jack −8 dBs at load impedance 47 kilohms Output impedance: less than 10 kilohms EUROCONNECTOR: 21-pin (pins 1 and 3) Output impedance: less than 1 kilohm −4 dBs with 10 kilohms load
CONTROL S IN	Minijack (1)
CONTROL S OUT	Minijack (1)
CONTROL L	5-pin connector (1)

Timer section

Clock	Quartz locked
Time indication	24-hour cycle
Timer setting	Only for recording 8 programmes one month at max.
Timer back up	Build-in self-charging capacitor Back-up duration: Up to 3 hours at one time

General

Power requirements	240V AC, 50Hz (SLV-401UB) 220V AC, 50Hz (SLV-401/402)
Power consumption	38W
Operating temperature	5° C to 40° C
Storage temperature	−20° C to 60° C
Dimensions	355 × 94 × 345 mm (w/h/d)
Weight	6.6 kg

Wireless commander RMT-257

Remote control system	Infrated control
Power requirements	3 V DC, two IEC designation R6 batteries
Dimensions	82 × 20 × 225mm (w/h/d)
Weight	120g (excluding batteries)

Accessories supplied

Wireless commander RMT-257 with two R6 batteries ..... (1)
75-ohm coaxial cable ..... (1)
Screwdriver ..... (1)

Design and specifications are subject to change without notice.

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

Trouble Checks

If any difficulty should arise during operation, first check the power cord connection, then go through the following list.
Should the difficulty persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

	Sympton	Possible causes
POWER	The ON/STANDBY switch does not function.	•The power cord is disconnected. •The VTR is in the timer standby mode.
	The power is turned on, but the unit does not operate.	The safety device on the unit has activated. Turn the power off, disconnect the power cord from the wall outlet and leave the unit for more than one minute.
CLOCK AND TIMER	The clock has stopped and " 0:00" is blinking.	There has been a power interruption. Reset the date, clock time and timer setting.
TV RECEPTION	TV programme is not clearly displayed on the TV screen.	•The programme for VTR is not correctly tuned on the TV receiver. •The TV signal is weak. Adjust the direction of the antenna. •The AC power cord of the VTR is disconnected.
RECORDING AND PLAYBACK	Noisy picture during recording	•The TV's channel is not set to that preset for the VTR. •The TV signal is weak. Adjust the direction of the antenna.
	No picture on the TV screen	•Press TV/VTR so that the VTR indicator appears in the display window. •The TV's programme is not set for a VTR, or the video input has not been selected at the monitor.
	Recording cannot be made.	•No cassette is inserted. •The tape is at its end. •INPUT SELECT is not set correctly.
	The playback picture is not clear.	•The channel for VTR is not correctly tuned on the TV receiver. •The tape recorded by another VTR is played back. •The video heads are contaminated. •If you use a commercially available wet-type cleaning cassette, it may damage the video heads. •The video heads are rubbed off. •Adjust SHARPNESS. •Adjust TRACKING.
	The picture moves vertically during picture search mode.	Adjust the vertical hold control on the TV or colour monitor.

	Sympton	Possible causes
TIMER RECORDING	Sound drop-outs	The tape is defective. Use a new video cassette tape.
	Timer setting cannot be made.	The current time has not been preset.
	The TIMER indicator disappears even though you pressed TIMER REC ON/OFF.	•No cassette is inserted. •The tape is at its end.
	The cassette is ejected when you press TIMER REC ON/OFF.	The safety tab of the cassette was broken off.
	Timer recording could not be made.	•There has been a power interruption of 3 or more hours. •TIMER REC ON/OFF was not pressed.
DATA SCREEN	The data screen disappear.	•Press ⊕ (display) button. •The TV or colour monitor is connected through the LINE OUT jack.
OTHERS	Cassette cannot be inserted.	Another cassette has been inserted.
	The commander cannot operate.	•The COMMAND MODE switch has not been set correctly. •The batteries are exhausted.